TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO   ID CODE _4911_____

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di __Matematica "Federigo Enriques"_____**

Scientist- in – charge: **_____Dott. Marco Sansottera_____**

Veronica Danesi

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Danesi
Name	Veronica
Date of birth	1992.07.24

PRESENT OCCUPATION

Appointment	Structure

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	Master's degree in Mathematics	University of Milan	2017
Specialization			
PhD	PhD in Mathematical Sciences	University of Milan	2021
Master			
Degree of medical specialization			
Degree of European specialization			
Other			

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City

FOREIGN LANGUAGES

Languages	level of knowledge
English	CEFR level C1 (IELTS test taken on 2017.08.19)

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award

TRAINING OR RESEARCH ACTIVITY

Title of the Ph.D. thesis: Periodic and quasi-periodic orbits in nearly integrable Hamiltonian systems.

In my Ph.D. thesis I developed effective and constructive algorithms for constructing both periodic and quasi-periodic solutions via a modification of the normal form methods related to the Kolmogorov theorem. In the first part, we constructed an explicit normal form algorithm that is suitable to study the continuation of degenerate periodic orbit arising from the breaking of a completely resonant torus of maximal or low dimension. The second part regards the development of a variation of the Kolmogorov's normalization algorithm, by avoiding the so-called translation step at the price of fixing only the *final* frequency, while the initial one can only be determined *a posteriori*.
The methods are fully constructive and have been implemented via computer algebra (with Mathematica) to study applications of the first problem in chains of weakly coupled anharmonic oscillators (like the discrete nonlinear Schrödinger model).

Ph.D. COURSES WITH EXAMS:
- "Gruppi di Lie e azioni di Gruppi di Lie su varietà", Prof. A. Gori.
- "Operator and Spectral Theory", Prof. M. Peloso.
- "Teoria ergodica, caos e irreversibilità", Prof. G. Gallavotti.

TALKS:
- "Variation on Kolmogorov's theorem: KAM with knobs", I-CELMECH Seminars, (2020) (online seminar).
- "On the continuation of degenerate periodic orbits via normal forms", Ravello (2019).
- "On the continuation of degenerate periodic orbits via normal forms", Leiden (2019) (poster).
- "On the continuation of degenerate periodic orbits via normal forms", University of Milan (2019).
- "Periodic orbits near an equilibrium: the Moser-Weinstein Theorem", Ravello (2018).

PROJECT ACTIVITY

Year	Project
2019-now	Member of PRIN 2017 "*New frontiers of Celestial Mechanics: theory and applications*". Principal investigator: Prof. M. Guzzo. Local research unit: University of Milan. Associate investigator of the research unit: Ph.D. M. Sansottera.
2018-2019	Member of Progetto Giovani GNFM 2018 "*Resonant normal forms in Hamiltonian systems*". Principal investigator: Ph.D. M. Sansottera.
2019-2020	Member of Progetto Giovani GNFM 2019 "*Low-dimensional invariant tori in FPU-like lattices via normal forms*". Principal investigator: Ph.D. M. Sansottera.

PATENTS

CONGRESSES

Date	Title	Place
10-15 June 2018	Summer school "Stable and Chaotic Motions in the Planetary Problem"	Asiago
17-22 June 2018	Conference "Perspectives in Hamiltonian Dynamics"	Venice
10-22 September 2018	"XLIII Summer school on Mathematical Physics"	Ravello
3-6 October 2018	"Assemblea Scientifica GNFM"	Montecatini Terme

6-8 February 2019	Workshop "Dynamical systems: from geometry to mechanics"	Roma
20-24 May 2019	Workshop "Leaning tori, a Hamiltonian event under the tower"	Pisa
24-28 June 2019	Conference "New trends in Celestial Mechanics"	Cogne
8-12 July 2019	Conference "Equadiff 2019"	Leiden
2-14 September 2019	"XLIV Summer school on Mathematical Physics"	Ravello
3-7 February 2020	"I-CELMECH Training School"	Milano

PUBLICATIONS

Books
[title, place, publishing house, year …]
[title, place, publishing house, year …]
[title, place, publishing house, year …]

Articles in reviews
V. Danesi, M. Sansottera, S. Paleari, T. Penati, *Continuation of spatially localized periodic solutions in one-dimensional dNLS lattices via normal forms*, (in preparation), (2021).
M. Sansottera, V. Danesi, *Kolmogorov variation: KAM with knobs (à la Kolmogorov)*, Submitted to Mathematics in Engineering for the Special Issue in honor of Antonio Giorgilli.
T. Penati, V. Danesi, S. Paleari, *Low dimensional completely resonant tori in Hamiltonian Lattices and a Theorem of Poincaré*, Mathematics in Engineering, 2021, 3(4): 1-20. DOI: 10.3934/mine.2021029 (Special Issue in honor of Antonio Giorgilli).
M. Sansottera, V. Danesi, T. Penati, S. Paleari, *On the continuation of degenerate periodic orbits via normal form: lower dimensional resonant tori*, Communications in Nonlinear Science and Numerical Simulation 90 (2020), 105-360, DOI: 10.1016/j.cnsns.2020.105360, arXiv: 2005.11859
T. Penati, M. Sansottera, V. Danesi, *On the continuation of degenerate periodic orbits via normal form: full dimensional resonant tori*, Communications in Nonlinear Science and Numerical Simulation 61 (2018), 198-224, DOI: 10.1016/j.cnsns.2018.02.003, arXiv: 1709.07824

Congress proceedings
[title, structure, place, year]
[title, structure, place, year]
[title, structure, place, year]

OTHER INFORMATION

TEACHING EXPERIENCES:
- 2018-2019: Tutor of the course "Laboratorio di Matematica di Base", held by Prof. N. Bressan, Bachelor in Biological Sciences, University of Milan.
- 2018-2019: Tutor of the course "Matematica Generale", held by Prof. S. Paleari and Prof.C. Cavaterra, Bachelor in Biological Sciences, University of Milan.
- 2019-2020: Tutor of the course "Laboratorio di Matematica di Base", held by Prof. N. Bressan, Bachelor in Mathematics, University of Milan.
- 2019-2020: Tutor of the course "Matematica Generale", held by Prof. G. Ciraolo and Prof. C. Cavaterra, Bachelor in Biological Sciences, University of Milan.
- 2019-2020: Tutor of "Recupero OFA Matematica", responsible Prof. O. Rizzo, University of Milan.
- 2020-2021 Tutor of the course "Recupero OFA Matematica", responsible Prof. N. Bressan, University of Milan.
- 2020-2021: Tutor of the course "Matematica Generale", held by Prof. G. Ciraolo and Prof. T. Penati, Bachelor in Biological Sciences, University of Milan.
- 2020-2021: Tutor of the course "Matematica del Continuo", held by Prof. C. Cavaterra, Bachelor in Informatics, University of Milan.

MEMBERSHIPS: Member of "Gruppo Nazionale per la Fisica Matematica" (GNFM), INdAM.

ORGANIZATIONAL SKILLS:
Member of the organizing committee of the "I-CELMECH Training School"
(PRIN Project "New frontiers of Celestial Mechanics: theory and applications")
which took place at the Department of Mathematics "F. Enriques" of the University of Milan in February 2020.

TECHNICAL SKILLS: Use of Mathematica and LᴀTEX.

Place and date: _Lumezzane___, _06/03/2021____

SIGNATURE

Veronica Danesi