Doctoral Degree – PhD Programme in Fusion Science and Engineering
University of Padova and University of Napoli
XL Cohort (Bando Ordinario/DM630)

Last Name, First	Supervisor(s)	Thesis	Research conducted at
AHMAD Kamran	Emanuele Sartori (S, AC, UNIPD), Marco Siragusa (CO-S, CRFX)	*Integration, characterization and optimization of pumping systems for fusion application*	University of Padova/Consorzio RFX
BEVILACQUA Mattia	*Nicolò Marconato (S, AC, UNIPD), Matteo Brombin (CO-S, CRFX), Roberto Cavazzana (CO-S, CRFX)*	*Advanced electronics for signal processing and data acquisition for experiments of fusion interest*	University of Padova/Consorzio RFX
BRAMUCCI Lorenzo	Piero Martin (S, AC, UNIPD), Paolo Innocente (CO-S, ISTP-CNR)	*Modelling and Analysis of the MAST-U divertor: opportunities toward the design of an innovative divertor for ARC and DEMO*	University of Padova/Consorzio RFX
CALCAGNO Monia	Lidia Piron (S, AC, UNIPD), Daniele Bonfiglio (CO-S, CRFX/ISTP-CNR), Leonardo Pigatto (CO-S, CRFX)	*MHD modeling of ELM physics and correlation with 3D fields in view of DTT*	University of Padova/Consorzio RFX
CINTORA DE LA CRUZ Alan Ricardo	Matteo Zuin (S, AC, CRFX/CNR), Maurizio Giacomin (CO-S, UNIPD)	*Design and implementation of high-frequency diagnostic systems in the RFX-mod2 device*	University of Padova/Consorzio RFX

KHODABAKHSHI Mona	Manuele Dabalà (S, AC, UNIPD), Prof. Giansalvo Cirrincione (CO-S, UPJV)	Implementing Machine Learning for Sustainable Improvement in Aluminium Alloys Production: A Pathway to Efficiency, Quality, and Environmental Responsibility	University of Padova/Consorzio RFX
LA ROSA, Alessandro	Emanuele Sartori (S, AC, UNIPD), Andrea Rizzolo (CO-S, CRFX	*Design and optimization of thermal and mechanical contacts in vacuum between structural components in neutral beam injectors*	University of Padova/Consorzio RFX
SACCARO, Lorenzo	Tommaso Bolzonella (S, AC, CRFX), Andrea Rigoni (CO-S, CRFX), Pietro Zanuttigh (CO-S, UNIPD)	*Physics informed deep learning neural networks models for real-me control of tearing instabilities in magnetic confinement fusion experiments*	University of Padova/Consorzio RFX
SARTORELLO Simone	Piero Martin (S, AC, UNIPD), Paolo Innocente (CO-S, ISTP-CNR)	*Study of high radiative power exhaust scenarios*	University of Padova/Consorzio RFX
SHEPHERD Alastair John	Emanuele Sartori (S, AC, UNIPD), Gianluigi Serianni (CO-S, AC, ISTP-CNR)	*Towards optimization of ITER prototype negative ion source performance through multi-parametric evaluation of the source control parameters*	University of Padova/Consorzio RFX
TONEL Alessandra	Lidia Piron (S, AC, UNIPD), Olivier Sauter (CO-S, EPFL)	*Dynamics of Plasma Rotation and ELM Control: A Multi-Machine Approach in Magnetic Fusion Research*	University of Padova/Consorzio RFX
ZUIN Edgard	Emanuele Sartori (S, AC, UNIPD) Antonio Pimazzoni (CO-S, CRFX)	*Movable diagnostics for spatially resolved measurements in negative ion beams and sources*	University of Padova/Consorzio RFX

Doctoral Degree – PhD Programme in Fusion Science and Engineering
University of Padova and University of Napoli
XXXIX Cohort (Bando Ordinario, DM117, DM118)

Last Name, First	**Supervisor(s)**	**Thesis**	**Research conducted at**
CAMERA Gianluca	Giuseppe Di Gironimo (AC, S, UNINA) Fabio Villone (AC, CO-S, UNINA)	*Multi-physics modelling and simulation for the design of nuclear fusion components*	University of Naples Federico II/ Consorzio CREATE
CICIONI Rachele	Lidia Piron (S, UNIPD) Nicolò Ferron (CO-S, CRFX)	*Modelling and development of controllers for DTT*	University of Padova/Consorzio RFX
CINNIRELLA Luca	Gianluigi Serianni (AC, S, ISTP-CNR, CRFX) Marco Barbisan (CO-S, ISTP-CNR)	*Diagnostic of confinement properties of fusion plasmas*	University of Padova/Consorzio RFX
EMMA Giulia	Emanuele Sartori (AC, S, UNIPD) Marghertita Ugoletti (CO-S, ISTP-CNR) Barbara Zaniol (CO-S, CRFX)	*Improving the homogeneity of large-size multi-beamlet ITER negative ion source*	University of Padova/Consorzio RFX
GRANDIN Matteo	Paolo Bettini (AC, S, UNIPD) Angelo Cenedese (CO-S, UNIPD) Mattia Bruschetta (CO-S, UNIPD)	*Advanced control techniques in magnetic confinement fusion devices*	University of Padova/Consorzio RFX
MOLISANI Sara	Matteo Zuin (AC, S, ISTP-CNR, CRFX) Nicola Vianello (CO-S, ISTP-CNR, CRFX) Maurizio Giacomin (CO-S,	*Advanced studies on magnetically confined plasmas for fusion research*	University of Padova/Consorzio RFX

NERI Marco	Raffaele Albanese (AC, S, UNINA) Roberto Ambrosino (CO-S, UNINA)	*Linearized 3D MHD equilibria in tokamak using finite elements*	University of Naples Federico II/ Consorzio CREATE
ORLANDI Luca	Lidia Piron (AC, S, UNIPD) Andrea Rigoni (CO-S, CRFX)	*Development of machine learning methods to detect and resolve faults in plasma diagnostics*	University of Padova/Consorzio RFX
RUFFINI Federico	Matteo Zuin (AC, S, ISTP-CNR, CRFX) Gianluca De Masi (CO-S, CRFX) Jorge Santos (CO-S, IST-IPFN)	*Design and development of the Plasma Position Reflectometry system on DTT*	University of Padova/Consorzio RFX
SALVIA Claudia	Paolo Bettini (AC, S, UNIPD) Silvio Ceccuzzi (CO-S, DTT) Fabio Zanon (CO-S, ENI)	*Development of a simulation code to analyze the behaviour of solid-state power amplifiers for ICH systems*	ENEA/ University of Padova

Doctoral Degree – PhD Programme in Fusion Science and Engineering
University of Padova and University of Napoli
XXXVIII Cohort – PNRR

Last Name, First	**Supervisor(s)**	**Thesis**	**Research conducted at**
CIPELLI Stefano Francesco	Anna CREMONA (CNR-ISTP) Gianmaria DE TOMMASI (AC, UNINA)	*Development of a laser-induced breakdown spectroscopy for fusion-relevant plasma-material interaction studies in the linear device BiGyM*	University of Padova/ CNR-ISTP, Milan
DE PICCOLI Chiara	Tommaso BOLZONELLA (AC, CRFX)	*Numerical investigation of fast ion distribution functions in fusion devices and their optimization by different mixes of NBI and ICRH in view of ITER operations*	University of Padova/Consorzio RFX
GUIOTTO Federico	Andrea MURARO (CNR-ISTP) Gabriele CROCI (UNIMB) Paolo BETTINI (AC, UNIPD)	*Development of advanced neutron and soft X-ray diagnostics with imaging capabilities for RFX-mod2*	University of Padova/Consorzio RFX
HUSSAIN Arshad	Giorgio DILECCE (CNR-ISTP) Gianmaria DE TOMMASI (AC, UNINA)	*Development of LIBS methodologies for fusion-relevant materials analysis*	University of Padova/ CNR-ISTP, Bari
PORCU Pasquale	Matteo ZUIN (AC, CRFX/CNR-ISTP)	*Thermal content dynamics in magnetically confined plasmas*	University of Padova/Consorzio RFX

Doctoral Degree – PhD Programme in Fusion Science and Engineering
University of Padova and University of Napoli
XXXVIII Cohort

Last Name, First	Supervisor(s)	Thesis	Research conducted at
CANDELA Silvia	Adriano PEPATO (INFN), Paolo BETTINI (UNIPD)	*Additive manufacturing of refractory metals for nuclear fusion applications*	University of Padova/INFN Labs
GAMBRIOLI Matteo	Lidia PIRON (AC, UNIPD)	*Error Field Control in Magnetic Fusion Devices*	University of Padova/Consorzio RFX
LOMBARDO Jacopo	Fulvio AURIEMMA (CRFX), Emilio MARTINES (UNIMB)	*Integrated modelling and scenario development for DTT*	University of Padova/Consorzio RFX
LA MATINA Miriam	Lorella CARRARO (CRFX), Leonardo GIUDICOTTI (UNIPD)	*A dispersion interferometer for RFX-Mod2*	University of Padova/Consorzio RFX
TOMASINA Edoardo	Leonardo PIGATTO (CRFX), Tommaso BOLZONELLA (CRFX)	*Physics of magnetic perturbations for fusion plasma control*	University of Padova/Consorzio RFX
ZOPPOLI Andrea	Giuseppe DI GIRONIMO (UNINA)	*Design and development of a remote Handling test and training facility for fusion reactors*	University of Naples Federico II/ Consorzio CREATE

Doctoral Degree – PhD Programme in Fusion Science and Engineering
University of Padova and University of Napoli
XXXVII Cohort

Last Name, First	Supervisor(s)	Thesis	Research conducted at
ACAMPORA Emilio	MATTEI Massimiliano (UNINA) AMBROSINO Roberto (UNINA)	*Alternative magnetic configurations and plasma exhaust control*	University of Naples Federico II/Consorzio CREATE
AGOSTINI Marco	BUSTREO Chiara (CRFX) ZOLLINO Giuseppe (UNIPD)	*Evaluation of the role in nuclear fusion in future energetic systems with emphasis on carbon-free technologies* *Supervisor*	University of Padova/Consorzio RFX
CANDELA Valentina	SONATO Piergiorgio (UNIPD), PEPATO Adriano (INFN)	*Additive manufacturing of pure copper and copper alloys for High Energy applications*	University of Padova/INFN Labs
CIUFO Stefano	ZUIN Matteo (CRFX) FADONE Michele (CRFX) BETTINI Paolo (UNIPD)	*Design, manufacturing and operation of plasma-facing component conditioning systems in fusion devices*	University of Padova/Consorzio RFX
DE NARDI Marco	GAIO Elena (CRFX) BETTINI Paolo (UNIPD)	*Technology R&D for H&CD Power Supplies for DEMO*	University of Padova/Consorzio RFX
FRATTOLILLO Domenico	MATTEI Massimiliano (UNINA)	*Plasma Constrained Control Technique in Nuclear Fusion Devices*	University of Naples Federico II/Consorzio CREATE
FRESCURA Alessandro	BETTINI Paolo (UNIPD)	*High voltage components gas insulated for applications in the field of nuclear fusion*	University of Padova/Consorzio RFX
LANZOTTI Francesca Giovanna	VILLONE Fabio (UNINA) DI GIRONIMO Giuseppe (UNINA) MARZULLO Domenico (UNITS)	*Systems engineering, configuration management and digital twin in fusion power plant: the Divertor Tokamak Test facility*	University of Naples Federico II/Consorzio CREATE

OTTAVIANO Daniele	DE TOMMASI Gianmaria (UNINA) CINQUE Marcello (UNINA) MANDUCHI Gabriele (CRFX)	*Advancing mixed-criticality real-time embedded systems for fusion diagnostics and control*	University of Naples Federico II/Consorzio CREATE
SANTORO Francesco	FERRO Alberto (CRFX) BETTINI Paolo (UNIPD)	*Development of new solutions for high voltage power supplies of Neutral Beam Injector for nuclear fusion experiments*	University of Padova/Consorzio RFX
SEGALINI Beatrice	SARTORI Emanuele (UNIPD) SERIANNI Gianluigi (CRFX)	*Uniformity optimisation of the negative ion beam source for the ITER neutral beam injector*	University of Padova/Consorzio RFX
TREVISAN Luca	MANDUCHI Gabriele (CRFX) MARCONATO Nicolò (UNIPD)	*High performance networks for control and data acquisition in modern fusion experiments*	University of Padova/Consorzio RFX

Doctoral Degree – PhD Programme in Fusion Science and Engineering
University of Padova and University of Napoli
XXXVI Cohort

Last Name, First	Supervisor(s)	Thesis	Research conducted at
CANDELORO Valeria	SARTORI Emanuele (UNIPD) SERIANNI Gianluigi (CNR/CRFX)	*Plasma formation and expansion in SPIDER and their influence on beam extraction*	University of Padova/Consorzio RFX
CAVALLINI Caterina	SONATO Piergiorgio (UNIPD) DALLA PALMA Mauro (CNR/CRFX)	*Investigation of corrosion-erosion phenomena in primary cooling circuits of reactor components ("Dottorato Industriale" – CRFX)*	University of Padova/Consorzio RFX
DUBBIOSO Sara	DE TOMMASI Gianmaria (UNINA) CINQUE Marcello (UNINA)	*Robust data-driven approaches for plasma magnetic control of tokamak plasmas*	University of Naples Federico II/Consorzio CREATE
IAIUNESE Antonio	VILLONE Fabio (UNINA)	*Non-axisymmetric evolutionary equilibrium plasma models in presence of three-dimensional conducting structures*	University of Naples Federico II/Consorzio CREATE
MARTINI Giulio	BETTINI Paolo (UNIPD) MANDUCHI Gabriele (CNR/CRFX)	*Integration of open-source frameworks in industrial plant control systems for large experimental facilities ("Dottorato Industriale" – CRFX)*	University of Padova/Consorzio RFX
MUSCENTE Paola	GIUDICOTTI Leonardo (UNIPD) INNOCENTE Paolo (CNR/CRFX)	*Review and comparison of divertor configurations for High Magnetic Field Tokamak (ENI)*	University of Padova/Consorzio RFX

STAGNI Adriano	MARTIN Piero (UNIPD) VIANELLO Nicola (CRFX)	*Turbulence induced particle and heat load on first wall in different confinement regimes*	University of Padova/Consorzio RFX
ZUMBOLO Pasquale	ALBANESE Raffaele (UNINA) VILLONE Fabio (UNINA)	*Modelling and reconstruction of 3D effects in tokamak plasmas*	University of Naples Federico II/Consorzio CREATE