Department	Reference	Subject	Possible Supervisor	Expected dates	Duration	Category	Field/Level of Study
Science and Operations Department	SCOD1	Establishment of sputtering physics database of Hydrogen/Deuterium/Tritium/Deuterium/Helium (H/D/T/He) on Beryllium/Tungsten (Be/W) (mixed materials)	X. Bonnin/ G. de Temmerman	2018	6 months	A/B/S	Not specified
	SCOD2	Sensitivity study of SOLPS-ITER (Scrape-Off Layer Plasma Simulation code for ITER) results to choice of Atomic and Molecular database and reflection data	X. Bonnin	2018	6 months	A/B/S	Not specified
	SCOD3	Benchmarking SOLPS-ITER (Scrape-Off Layer Plasma Simulation code for ITER) simulations of plasma-facing component temperature against experimental measurements on current tokamaks	R. A. Pitts/X. Bonnin	2018	6 months	A/B/S	Not specified
	SCOD4	Development of surface chemistry capabilities in the Eirene Monte Carlo neutral transport code	X. Bonnin	2018	6 months	A/B/S	Not specified
	SCOD5	Rate equation modeling of Edge-Localized Mode induced recrystallization of tungsten	G. De Temmerman	2018	6 months	A/B/S	Not specified
	SCOD6	Thermo-mechanical modeling of crack appearance in tungsten	G. De Temmerman	2018	6 months	A/B/S	Not specified
	SCOD7	Valdiation of ammonia chemistry database AMMONX (ammonia chemistry database) linear plasma geometry	G. De Temmerman/X. Bonnin	2018	6 months	A/B/S	Not specified
	SCOD8	Generalized geometry for a fast boundary plasma model	S. W. Lisgo	2018	6 months	A/B/S	Not specified
	SCOD9	Adaptation of boundary plasma engineering design support codes to Integrated Modelling and Analysis Suite (IMAS)	S. W. Lisgo	2018	6 months	A/B/S	Not specified
	SCOD10	Core-edge coupling in plasma transport modelling code (TRANSP) and initial application to ITER scenario design	S. W. Lisgo	2018	6 months	A/B/S	Not specified
	SCOD11	Reduced model boundary plasma simulation with an exascale Computational Fluid Dynamics (CFD) framework	S. W. Lisgo	2018	6 months	A/B/S	Not specified
	SCOD12	Melt footprints on the ITER beryllium first wall during disruptions	R. A. Pitts	2018	6 months	A/B/S	Not specified
	SCOD13	Tests of divertor detachment scalings using the SOLPS-ITER (Scrape-Off Layer Plasma Simulation code for ITER) simulation database	R. A. Pitts/X. Bonnin	2018	6 months	A/B/S	Not specified
	SCOD14	Establishment of accurate penalty factors for ITER first wall panel heat loading	R. A. Pitts	2018	6 months	A/B/S	Not specified
	SCOD15	Combine burn and fusion fuel control	P. de Vries	Spring 2018	4/7 months	A/B/S	Not specified
	SCOD16	Pellet injection for Edge Localized Mode (ELM) pacing control	P. de Vries/L. Zabeo	Spring 2018	4 months	A/B/S	Not specified
	SCOD17	Statistical analysis of Plasma Control System (PCS) system engineering database	P. de Vries	Autumn 2018 2019	4/7 months	A/B/S	Not specified
	SCOD18	Plasma Control System Simulation Platform (PCSSP) interface with Interface Data Structure (IDS)	P. de Vries/H. Anand/L Zabeo	Spring 2018	4 months or more	A/B/S	Not specified
	SCOD19	Shine-Through estimation	L. Zabeo/ C. Watts	2018	6 months	A/B/S	Not specified
	SCOD20	Electron Cyclotron Resonant Heating (ECRH) polarization control	L. Zabeo/F. Gandini	Spring 2018	7 months	A/B/S	Not specified
	SCOD21	Disruption avoidance: density limit, lock mode,...	M. Lehen	Spring 2018	4/7 months	A/B/S	Not specified
	SCOD22	Plasma Control System Simulation Platform (PCSSP) dedicated visualization Graphical User Interface / Human Machine Interface (GUI/HMI)	L. Zabeo	Spring 2018	4 months	A/B/S	Not specified
	SCOD23	Simplified edge physics	S. Lisgo	Spring 2018	4/7 months	A/B/S	Not specified
	SCOD24	Density control	L. Zabeo/P. de Vries	Spring 2018	4/7 months	A/B/S	Not specified
	SCOD25	Design and develop capability to provide Integrated Modelling and Analysis Suite (IMAS) infrastructure in MAC Operative System (MAC OS) environment	S. Pinches/M. Hosokawa	2018	4/6 months	A/B/S	Not specified
	SCOD26	Design a user-friendly, interactive representation of the data dictionary and develop an automatic process to create it	S. Pinches/M. Schneider	2018	4/6 months	A/B/S	Not specified
	SCOD27	Develop Integrated Modelling and Analysis Suite (IMAS) data visualization tools	M. Schneider/S. Pinches	2018	4/6 months	A/B/S	Not specified
	SCOD28	Adaptation of Electron Cyclotron Resonant Heating (ECRH) modelling codes to Integrated Modelling and Analysis Suite (IMAS) and application to modelling of ECRH in ITER scenarios	M. Schneider	2018	4/6 months	A/B/S	Not specified
	SCOD29	Development of capaability to store and retrieve Integrated Modelling and Analysis Suite (IMAS) data structures in Hierarchical Data Format version 5 (HDF5) and to add and retrieve arbitrary sub-structure from them	S. Pinches	2018	4/6 months	A/B/S	Not specified
	SCOD30	Improvement of plasma edge/Scrape Off Layer (SOL) models in JOREK (Non-linear extended Magneto-Hydro-Dynamic code) for advanced Edge Localized Mode (ELM) control simulations	A. Loarte	2018	4/6 months	A/B/S	Not specified
	SCOD31	Development and application of neural networks for efficienct integrated simulations of ITER plasmas	A. Polevoi/A. Loarte	2018	4/6 months	A/B/S	Not specified
	SCOD32	Development of synthetic diagnostics for modelling of ITER plasmas with the Integrated Modelling and Analysis Suite	A. Polevoi/S. Pinches/M. Schneider	2018	4/6 months	A/B/S	Not specified
	SCOD33	Development of synthetic actuators to model behaviour of heating and current drive systems by application of the Integrated Modelling and Analysis Suite Heating and Current Drive workflow	M. Schneider/S. Pinches	2018	4/6 months	A/B/S	Not specified
	SCOD34	Maximum entropy plasma facing component topology reconstruction from multiple wide angle viewing system images	S. W. Lisgo	2018	4/6 months	A/B/S	Not specified
	SCOD35	Support Development of a Simulator for IEC61850 (international standard defining communication protocols for intelligent electronic devices at electrical substations) devices	B. Evrard	Sept - December 2018	4 months	A//S	Master 2 in Industrial Engineering, Automation, Control Systems, or Computer Science
	SCOD36	Support Development of a GUI (Graphical User Interface) generator for SNL (State Notation Language) graphs	B. Evrard	Sept - December 2018	4 months	A//S	Master 2 in Industrial Engineering, Automation, Control Systems, or Computer Science
	SCOD37	Support Development of a PLC (Programmable Logic Controller) Datablock Vewer	B. Evrard	Sept - December 2018	4 months	A//S	Master 2 in Industrial Engineering, Automation, Control Systems, or Computer Science
	SCOD38	Support Development of an EPICS (Experimental Physics and Industrial Control System) IOC (Inputs/Outputs Controller) Driver for Profinet Server Boards	B. Evrard	Sept - December 2018	4 months	A//S	Master 2 in Industrial Engineering, Automation, Control Systems, or Computer Science
	SCOD39	Support Development of 2 Eclipse plugins for EPICs (Experimental Physics and Industrial Control System) Records and IEC61131-3 Languages (Programmable Logic Controllers: Programming Languages)	B. Evrard	Sept - December 2018	4 months	A//S	Master 2 in Industrial Engineering, Automation, Control Systems, or Computer Science
	SCOD40	Support Development of an EPICS (Experimental Physics and Industrial Control System) Driver for IEC61131-3 (Programmable Logic Controllers: Programming Languages) data over TCP/IP (Transport Control Protocol/Internet Protocol)	B. Evrard	Sept - December 2018	4 months	A//S	Master 2 in Industrial Engineering, Automation, Control Systems, or Computer Science
Finance and Procurement Department	FPD1	Assistant (in) Financial verification	A. Fiorentino	March 2018	6 months	A/B/S	University Degree in Economics, Accounting, Business management, Law
	FPD2	Supply Chain management – business intelligence	F. Flament	March 2018	6 months	A/S	Master Degree in Supply Chain Management
	FPD3	Support to Procurement activities + Develop Employer/Contractor Collaborative Relationship Management approach	A. Calmes	ASAP	4/6 months	A/S	Master Degree in Business Management and/or Procurement
Project Control Office	PCO1	Risk and Opportunity Management Support	M. Chouchana	June 2018	12 months	A/S	Not specified
	PCO2	Support to Baseline Change Proposal (BCP) management and implementation Project Control Office	S. Konig	January 2018	6 months	A/S	Not specified
	PCO3	Development of Scope and Basis of Estimate for construction works	C. Ricketts	2018	6/12 months	B	Not specified
Central Integration Office	CIO1	Management of 2D data in construction / assembly phase - Drawings	F. Lassueur	ASAP	6 months	A	2 years post-secondary education in Instrumentation & Control
	CIO2	Computational Fluid Dynamics (CFD) modelling for fire evaluations: participation to methodology finalization and its application to IO	J. Champigny	March - August 2018 **OR** June - December 2018	6 months	A	Master 2 in Thermal-Hydraulics, Fire & CFD (Computational Fluid Dynamics)
	CIO3	Project support for the "Windows 10 migration"	M. Spizzi	April - May 2018	6 months	A	3 years post-secondary education in Electronic Engineering or Computer Science
	CIO4	Research Project – Confluence Blueprint Development	R. Jober	ASAP	6/12 months	A	Not specified
	CIO5	Research Project – Confluence/Jira Add-on Development	R. Jober	ASAP	6/12 months	A	Not specified
	CIO6	Research Project – Jira Mobile App Development	R. Jober	ASAP	6/12 months	A	Not specified
	CIO7	Virtual Room (VR) headset operation and Assembly analysis	E. Carlier	February 2018	6 months	A	Master Degree/ 3rd Year of Engineering School
	CIO8	Generation of Functional Block Diagram based on the Integrated Functional Analysis and engineering diagrams.	B.Blanpain	February 2018	6 months	A	Master student
Quality Assurance & Assesment Division	QAA1	Quality Assurance Assistant of International Standardization Organization (ISO) 9001 Certification	Z. Zhanwei	March 2018	8 months	A/B/S	College Student in Quality Management
Plant Engineering Department	PED1	Electro-Magnetic Compatibility, including static magnetic field, of electrical and electronic components for the ITER plant systems.	I. Benfatto / J. Hourtoule	ASAP	6/12 months	A/S	Master 2 or PhD student
	PED2	Earthing and lightning protection systems for the ITER buildings, site and electrical installations	I. Benfatto / N. Peyrus	ASAP	6/12 months	A/S	Master 2
	PED3	Execution of computer simulations for fault analysis and system stability of electrical systems	I. Benfatto / J. Hourtoule	ASAP	6/12 months	A/S	Master 2 or PhD student
	PED4	Verification of the Stability of Coil Power Supply Control system	I. Benfatto	ASAP	6/12 months	A/S	Master 2 or PhD student
	PED5	Structural analyses of Cooling Water System (CWS) piping ainside the Tokamak Complex	G. Dell Orco	ASAP	12 months	A/B/S	Bachelor or Master student
Communication	COM1	Visual Tools Optimization	L. Coblentz	2018	6 months	A/B/S	Master in Communication, photojournalism, science, political science, international relations, etc.