Application Form for the International Master Program
„Computational Modeling and Simulation“ (CMS) at TU Dresden
(according to the aptitude assessment regulations of February 27, 2018)

Please note:
Evidence of all qualifications must be attached to the application in original or as certified copy with translations in German or English where applicable. You must add related official certificates, transcript of records, bachelor degree certificate, etc. Incomplete applications will not be considered.

Personal data:

Family/Last name: _____

Given/First name: _____

Date and place of birth: _____

Citizenship(s): _____

E-mail address: _____

Current postal address: _____

_____

_____

I apply for the CMS Track:

☐ Computational Life Science
☐ Computational Mathematics
☐ Visual Computing
☐ Computational Modeling in Energy Economics
(partially in German, see (3) below)
☐ Computational Engineering

(1) Degree
a) I obtained / b) I will obtain my first university degree qualifying for professional activity in
Computer Science, Mathematics, Natural Sciences, Economics or Engineering

Title of the degree: _____

a) Date of the degree: _____

b) Date of the expected graduation: _____
I have achieved _____ % of the credits needed for the completion of the degree program.
(attach original confirmation from your university)

University Name and Country: _____

(2) English language proficiency
(Knowledge of English corresponding to at least level B2 of the European Frame of Reference for Languages is required)

□ Native speaker; home country: _____

□ Previous degree studies in English: _____ % or _____ ECTS credits

□ scientific work in English
written by myself: _____(has been attached)

□ English language test (title, result): _____

□ Education before university (specify): _____

(3) German language proficiency (not required)
(Knowledge of German is not required for CMS studies. However, certain optional modules may be offered in German, leading to larger selection possibilities. In particular, the track "Computational Modeling in Energy Economics" can only be selected if German proficiency is given. For all other tracks, this is not required, and it does not constitute an admission criterion.)

□ I feel able to follow classes that are completely taught in German.

□ I feel able to follow classes in German if slides and supporting materials are in English.

□ I do not feel able to follow classes taught in German.

(4) Special knowledge
(A prerequisite for studying CMS is independent working knowledge of computer programming, as well as mathematical and scientific basics. Please tick the boxes below to assess your skills.)

□ I can independently implement, debug and run computer programs in (tick all that apply):
- □ C++
- □ C
- □ Fortran (any version)
- □ Java
- □ Python
- □ Matlab
- □ Other; please specify: _____

□ I have seen or used the following languages, but am not really independent in them:

_____

_____

□ I have working knowledge of parallel programming using:
(additional qualification, not required for admission)
- □ message passing (MPI, 0mq, sockets, etc.)
- □ multi-threading (OpenMP, pthreads, Java Threads, etc.)
- □ GPGPU programming (CUDA, OpenACC, OpenCL, etc.)

□ I have working knowledge of the following at least on the level of a German Abitur:
- □ Calculus of functions in one and multiple variables (partial derivatives, etc.)
- □ Basics of linear algebra (matrix and vector operations, inversion, decomposition)
- □ Basics of probability (distributions, elementary probabilities, axioms)
- □ Basics of physics (classical mechanics, basic electromagnetism, optics)
- □ Basics of biology (components of a cell, theory of evolution, ecosystems)
- □ Basics of chemistry (atoms, periodic table, organic molecules (proteins, DNA, …))

(5) Courses already completed (additional qualifications)
I received the following study results and attached the corresponding certificates:

Related course titles and description (enter actual title of the course you took in the indicated topic areas)	**Teaching hours or credits**	**Grade**
Parallel Programming / High-Performance Computing _____		
Numerical Methods / Numerical Algorithms / Numerical Analysis _____		
Stochastics / Probability / Stochastic Algorithms _____		
Data Visualization / Information Visualization / Scientific Visualization _____		
Statistics / Experimental Design / Inference Methods _____		
Machine Learning / Data Mining / Artificial Intelligence _____		

I confirm that all statements have been made conscientiously and truthfully. All supporting certificates have been attached.

Place, date: **Signature:**