Statutes of the Society for Research on Trace Metal Metabolism in Plants, z.s.

Preamble

Recognizing the critical importance of research for sustainable societal and economic development, the founding members, representing the field of trace metal metabolism in plants, have established the Society for Research on Trace Metal Metabolism in Plants. Their goal is to advance both fundamental and applied research in this area, with a long-term vision of benefiting the environment, enhancing food quality, and ensuring food safety. This initiative seeks to continue the efforts of the COST Action PLANTMETALS under the same name to the extent possible without the direct support of COST.

The founders hereby establish the society under Act No. 89/2012 Coll. (Civil Code of the Czech Republic).

§ 1 Name and Registered office

Name: Society for Research on Trace Metal Metabolism in Plants, z. s.

Abbreviation: PLANTMETALS Society

Registered Office: České Budějovice

§ 2 Purpose

The purpose of the Society for Research on Trace Metal Metabolism in Plants, z. s. (abbreviation: PLANTMETALS Society) is to achieve the following objectives, which align with the goals of the COST Action CA19116 PLANTMETALS:

1) Research Objectives

a) Advance fundamental scientific understanding of metal uptake and metabolism in plants by leveraging the expertise in the network. The focus is on trace metals in the widest sense, including those that are trace in metabolism but not in the environment (e.g. iron), as well as trace metals that are not required by metabolism according to current knowledge (e.g Hg, Pb, REE's). The research goals include the following.
- Determine transport pathways of metals from the soil to and through the plant, as well as storage in the plant (homeostasis in its widest sense)
- Understand the function of plant metalloproteins
- Evaluate the mechanisms by which metal deficiencies and toxicities affect plants, including plant-microbe interactions.

b) Develop and refine methodologies to achieve these scientific goals, particularly in areas such as analysing metal uptake, localisation, and speciation in plants. This includes determining optimal sample preparation methods, establishing detailed protocols for assessment of the metal nutritional status and metal bioavailability in plants, as well as metal phytoavailability in soil.

c) Provide the agricultural sector with insights into the localisation and bioavailability of micronutrients in plant products, and offer guidance on agricultural practices for crop biofortification with trace metals. This also includes best practices for managing micronutrient application, considering crop types, soil conditions, and climatic factors. Additionally, offer strategies for reducing toxic metal accumulation in plants and promoting the use of microbial inoculants that enhance micronutrient uptake.

d) Conduct environmental and agricultural risk assessments to evaluate the impact of various metal-induced inhibitory mechanisms on plant metabolism under environmentally relevant real-world conditions.

e) Enhance phytoremediation techniques for polluted soils and aquifers by exploring the physiological and biochemical mechanisms of hyperaccumulation, utilizing the combined expertise within the network.

f) Train researchers and professionals from both public and private sectors in metal imaging and speciation methods, with a particular focus on correct sample preparation to avoid misleading conclusions due to artefactual redistribution or changes in speciation during the preparation process.

g) Provide expert advice in forums discussing the pros and cons of genetic modification and the use of synthetic biology in agriculture.

h) Raise public awareness of the crucial role of trace metals in biology and their impacts on human nutrition and public health.

i) Support industry by providing a technical foundation for the production of micronutrient-based fertilisers and soil conditioners, and assist regulatory authorities in their decision-making processes.

2) Capacity Building Objectives

a) Bridge the gap between fundamental scientific research and the applied (productive, commercial) sector.

b) Facilitate the transfer of new methodologies and analytical technologies for metal studies to the broader community engaged in research on trace metals in plants and those involved in risk assessment.

c) Generate knowledge and insights for end-users, including tools to assess micronutrient deficiencies in crops, and ensure the safety of fertilizers and bioavailability of nutrients, especially in light of the new EU regulation on fertilisers.

d) Characterise and evaluate the roles and safety of organic fertilisers and agrochemicals in the micronutrient nutrition of crops.

e) Develop an EU-wide network for plant metallomics analyses.

f) Promote the education and training of young researchers through mobility programs in both academic and private sectors.

§ 3 Forms of activity

1) The primary activities of the PLANTMETALS Society are designed to achieve its objectives, as established by the founding members.

a) Maintain and update the society's website, which serves as a platform for sharing information about activities, members, publications, and job opportunities, supported by free software and voluntary member contributions.

b) Continue the Action's online seminar series, complemented by additional virtual meetings, such as workgroup sessions.

c) Maintain the existing mailing lists, also supported by free software and voluntary contributions.

d) Organize biannual face-to-face conferences, funded by registration fees, donations, membership dues, and potential external grants.

e) Issue press releases, draft position papers, and organize specialized sessions at international conferences.

f) Produce educational material, subject to available donations or new external funding.

2) To further its mission, the society may also engage in the following supplementary activities:

g) Engage in individual and group consultancy activities aligned with its core interests.

h) Organize educational activities, such as participation in agricultural fairs or other educational events.

i) Collaborate with scientific funding bodies to influence research agendas.

j) Partner with other scientific organizations to benefit members.

k) Enhance membership benefits and ensure the society's relevance.

m) Maintain financial and tax records.

4) All activities will consider the principle of equal opportunities, with special attention to young people, women, and other disadvantaged or at-risk groups.

3) Activities may be organized as projects, which are time-bound, coordinated efforts aimed at achieving specific objectives outlined in approved programs or sub-programs.

5) The society will collaborate with local partners to achieve its goals.

6) No part of the society's benefits or income shall be distributed or used for personal gain to its leaders, trustees, officers, or any private individuals or non-charitable entities, except for reasonable compensation for services rendered or payments made in furtherance of its mission as outlined in the Certificate of Incorporation or these Bylaws.

7) The society shall not have any shareholders or directors with a proprietary interest in its benefits or income.

§ 4 Membership: Formation and Termination

1) **Eligibility and benefits**:
Membership in the PLANTMETALS Society is open to individuals with a demonstrated track record in the society's objectives. Legal entities may also become members. Membership benefits include reduced registration rates for PlantMetals conferences and support for young scientists attending these events.

2) **Membership Fees**:
Membership is subject to an annual membership fee, which is due in advance for the upcoming year. The Treasurer will publish the fee structure annually, including reduced rates for early-career scientists, retirees, and the unemployed. Resignation is permitted at any time, but fees are non refundable. Members who fail to pay by January 1 will receive a reminder to pay their membership dues within 30 days after the notice is published, with a warning that they will have their membership rights suspended after 3 months and permanently revoked after 12 months.

3) **Admission Process**:
Membership is granted by the Committee of Leaders (CoL) upon review of the application. By applying, the applicant agrees to comply with the society's statutes and regulations and consents to having their data included in the membership list. Membership candidates furthermore need to explain which objectives of the society are targeted with the research of the applicant.

4) **Membership List**:
The society maintains a membership list that includes the following information. The membership application will include a statement of consent with keeping these data for the purposes of activity of the Action in accordance with EU GDPR. The list will not be published apart from those items that are explicitly labelled as "public" in the membership application form (name, website, optionally address and contact information).

- Member's name and representative (if a legal entity)

- Type of membership (e.g., individual, legal entity)

- Address and contact information (street, street number, municipality, e-mail, phone, optionally social media contacts and website)

- Date of and type of highest academic degree, date of birth

- Gender (for being able to actively support gender equality – to support a certain gender it is necessary to know the gender)

- Research interests, expertise, motivation to join the PLANTMETALS Society.

a) Entries in the list shall be made within 30 days of membership approval by the society's office.

(b) Removals occur within 30 days of membership termination, initiated by the member or the CoL.

(c) Data Protection: All personal data will be handled in accordance with applicable privacy laws.

d) A version of the membership list, excluding personal data but including photos as used for scientific websites and links to ORCID, WOS, and Google Scholar profiles, may be published on the society's website.

§ 5 Rights and Obligations of Members

1) Rights:

Members of the PLANTMETALS Society have the right to:

a) Participate in the General Assembly (GA) and other society meetings.

b) Submit proposals and suggestions regarding the society's activities.

c) Attend events organized by the society.

d) Access information and resources provided by the society.

e) Vote in elections for society officials and run for office.

f) Evaluate the performance of the society's bodies and members, and request explanations or corrections as needed.

g) Receive reduced registration fees for conferences organized by the society, with the exact discount determined by local organisers and the CoL.

2) Obligations:

Members are required to:

a) Actively contribute to the society's objectives.

b) Adhere to the society's statutes and agreed-upon procedures.

c) Comply with laws related to research ethics, practice, patents, and intellectual property.

The CoL reserves the right to suspend or expel members who violate the society's objectives or bring it into disrepute.

§ 6 Statutory Body, Term of Office, and Transitional Rules

The PLANTMETALS Society operates on democratic principles as a voluntary organization. Any amendments to these statutes require a two-thirds majority vote in both the Committee of Leaders (CoL, as defined below) and the General Assembly (GA).

1) **Society Bodies**:

a) The Chair. **This is the statutory body of the PLANTMETALS Society.** Election of the chair by the GA, as well as obligations, rights and limitations of the role of the chair are defined in §9.

b) **General Assembly** (**GA**): The convention of all PLANTMETALS members. Its roles and limitations are defined in §7.

c) **Committee of Leaders** (**CoL**): Includes the Chair, Vice-Chair, Treasurer, Workgroup Leaders and their Deputies. The term of office of these roles is two years. For a smooth transition from PLANTMETALS COST Action to PLANTMETALS society, all leaders of the COST Action (Prof. Hendrik Küpper as chair, Prof. Nathalie Verbruggen as vice chair and all WG leaders as stated below) can continue until the first face to face GA of the PLANTMETALS society, where they can either be re-elected or replaced by simple majority of present members. If this means a replacement of the chair connected to a replacement of the office of the society, also the legal registration of the society can be transferred to a new location.

d) **Workgroups** (**WGs**): Continued from the COST Action, each led by a WG Leader and Deputy Leader.

WG1 “Metal Transport” - Pathways of TMs from the soil and through the plant. WG1 identifies the limiting factors in the uptake of plant physiologically active TMs from the rhizosphere and limit the uptake or the transfer to edible parts of toxic non-essential TMs. WG1 determines the chemical form (speciation) of TMs in each compartment. WG1 studies crop plants and the use of hyperaccumulators and identify key nodes to improve/limit the uptake and accumulation of essential/non-essential TMs. WG1 studies interactions between TMs (antagonistic or synergistic effects). Leader: Prof. Sebastien Thomine, deputy leader: Prof. Ana Assuncao

WG2 “Metalloproteins” - Metalloproteins important for TM homeostasis, metalloenzymes. WG2 identifies metalloproteins important for TM use efficiency. WG2 studies interaction of the proteins (other than transporters) with a TM: substrate affinity, regulation of activity, mechanism of function. Leader: Prof. Annette Rompel, deputy leader: Dr. Jonathan Przybyla-Toscano

WG3 “Environment” - Responses of plant TM metabolism to the environment. TM deficiency, TM toxicity, interactions with beneficial microorganisms and pathogens. WG3 identifies targets of both stress conditions and mechanisms, from the initial target to the whole- plant response. The initial targets can be lack or non-functional replacement of metal centres in metalloproteins, but also direct or indirect interactions with nucleic acids and metabolites. WG3 reveals how beneficial microorganisms and pathogens interact with the metal metabolism of plants. Such interactions may, for example, involve changes in the uptake and intra-plant distribution of metals, enhanced or diminished expression or activity of metalloproteins. Leader: Dr. Marek Vaculik, deputy leader: Dr. Dorina Podar

WG4 “Agronomy” - Agronomic aspects of TM homeostasis. WG4 conducts studies to contribute to better nutritional quality of food crops by using targeted fertilisation and agricultural management also in consideration of the new EU regulation on fertilisers, and to characterise crop plant response to low and excess application of TMs by employing physiological assays and analytical tools, which will be developed in WG1-3. WG4 evaluates how micronutrient fertilisers are absorbed (after foliar vs. soil application, added in organic or mineral forms), how microorganisms and fungi can be used to improve plant TM nutrition (through a better use of soil metals), how TMs are transported within crop plants and how their localisation and speciation changes in this process. Finally, workshops / symposia will be organised for farmers societies and industrial stakeholders dealing with targeted breeding, fertilisation and micronutrient foliar fertiliser production. This will be done in the last year of

the Action, to facilitate the transfer of the knowledge gained from the COST Action to the stakeholders. Leader: Dr. Valerie Bert, deputy leader: Prof. Giancarlo Renella

WG5 “Dissemination”. WG5 is focused on how to best target the results from this Action to the different stakeholders. WG5 is responsible for preparing the press releases to news outlets, update the Action’s social media accounts, and support the efforts at the national front. Moreover, WG5 will organise training sessions on writing skills to target research journals, farmer bulletins, and press releases. In addition, WG5 coordinates any joint project by groups within the consortium to maximise group interactions, avoid overlaps and redundancy of research efforts, and increase success rates. Leader: Prof. Seçkin Eroğlu

WG6 “IP” – Industry partnership. It is expected that a number of the results obtained within the PLANTMETALS Action will have an impact on the private sector. WG6 coordinates all the IP protection efforts, promoting them whenever possible in collaboration with the universities involved – (which usually have their own IP department). In addition, to maximise this output, WG6 will organise a training session on IP protection for the younger participants and promote meetings with the private sector to ensure the exploitation of the key results of the Action. Leader: Dr. Muhammad Imran

e) The workgroup structure can be altered by a two-thirds majority in the GA and CoL.

f) New Bodies may be established by a two-thirds majority vote of the GA and CoL.

2) **Voting Rights:**

No single institute, nation, or other interest group may hold more than 20% of the voting rights in any body. The CoL will resolve any disputes regarding this rule.

3) **Eligibility:**

Member of elected bodies must be legally competent and of good character within the meaning of the law governing the trade. Legal entities must appoint a representative who meets these criteria.

4) **Operational Procedures:**

The detailed functioning of these bodies, including voting and decision-making, will be governed by the Rules of Procedure.

The collective bodies of the PLANTMETALS Association may take decisions outside the GA meetings by online voting or per rollam if necessary. The approval of a majority of the members of the body is required for the adoption of a per rollam decision.

Collective bodies of the PLANTMETALS Association may be held using technical means (on-line or hybrid), provided that the members are able to follow the entire proceedings and vote.

§ 7 General Assembly

1) **General Assembly (GA):**

The GA is the highest body of the PLANTMETALS Society, but the CoL holds veto power. All members of the society are delegates of the GA.

2) **Meeting Frequency:**

The GA meets at least once every year, during the conferences or additionally online if the conference is only biannual. The meeting date this General Meeting (GM) is decided by simple majority online vote (using a free of charge online voting tool OR face to face in presence of all members), with a right of veto by the CoL with two-thirds majority within the CoL. The meeting date and location is announced as early as possible, normally at the previous GM, but at least 30 days in advance. The announcement will be made by e-mail and via our website.

3) **Quorum:**

A quorum for the GM to be valid requires an absolute majority of all members. Further, the CoL has a right to be present at the GM with representation of chair, vice chair and at least one representative per WG. Therefore, the CoL has a right to veto the date of the GM if this condition is not fulfilled.

4) **Substitute GM:**

If a quorum is not reached, a substitute GM will be held online within a month from the regular GM, with the same agenda and with the date decided as for the regular GM. There is no quorum for this meeting, but the CoL still retains veto power.

5) **Representation of Legal Entities:**

Legal entities must authorize a representative for GA participation, or they will be represented by a statutory body member.

6) **GA Competence:**

The GA is responsible for the following, but the CoL always has a veto right with two-thirds majority within the CoL. Decisions of the GA require an absolute majority of members present unless stated otherwise. Decisions can be made during the GM or by online voting.

a) Approving statutes and amendments (two-thirds majority required).

b) Approving internal regulations, unless they are entrusted by law to another body of the PLANTMETALS society. This task can be delegated to the CoL for improving efficiency and speed of management.

c) Approving membership/funding rules, including the method of evaluation.

d) Establishing or dissolving a secretariat, if necessary for handling administrative tasks.

e) Determination of the method of election and removal of members of the CoL and any other committee that may be created within the PLANTMETALS society, and determination of the number of members of the bodies and determination of powers. A two-thirds majority is required for changes.

f) Election of all CoL members

g) Approving the GM agenda by online voting

h) Approving activity reports, financial statements, and the Audit Committee report. This task can be delegated to the CoL and/or done by electronic communication and online voting.

i) Deciding on property issues, activity plans, and budgets. The main decisions in this direction should be done during the GM, modifications can be discussed outside the GM by electronic means and with online voting.

j) Expelling members.

k) Deciding on the merger or dissolution of the society (two-thirds majority required).

7) **Oversight:**

The GA imposes tasks on the CoL and oversees their execution.

§ 8 Committee of Leaders (CoL)

1) **Composition and Term:**

Includes the Chair, Vice-Chair, Treasurer, Workgroup Leaders and their Deputies. The term of office of these roles is two years. Vacancies are filled only for the remainder of the term.

2) **Eligibility and Re-election:**

CoL members are elected from the PLANTMETALS society and can be re-elected.

3) **Voting Right:**

Each CoL member has equal voting rights in decision-making.

4) **Meetings:**

The CoL meets as necessary, but at least once every six months, either in person or online.

5) **Responsibilities:**

The CoL is responsible for all PLANTMETALS society matters not under the GA's jurisdiction, including:

a) Approving the society's budget,

b) Approving application calls and proposing selection criteria for GA approval.

c) Selecting projects and allocating support, provided that no more than 20% of the budget or available funds is used for a single project without GA is approval.

d) Authorizing the chair to convene the GA, and obliging them to do so if 30% of the members request it.

e) Recruiting new members. The expulsion of members, however, is decided by the GA.

§ 9 Chair and Vice-Chair

1) **Roles and Responsibilities:**

The Chair of the CoL also serves as the Chair of the society, managing the CoL with the Vice-Chair. Both have the right to and are responsible for convening its meetings as well as GA meetings and are accountable to the GA for their actions.

2) **Representation:**

The Chair is the statutory representative of the society. The chair may issue a power of attorney to the Vice-Chair to represent the society.

3) **Website and Communication Management:**

The Chair maintains the society's website (plantmetals.eu, plantmetals.net) and the plantmetals.eu mailing lists.

4) **Delegation of Authority:**

The Chair may delegate specific tasks to other society members.

5) **Vice-Chair's Role:**

The Vice-Chair can continue the Chair's activities in her or his absence and is responsible for ensuring continuity until the Chairperson resumes duties or a new one is elected..

§10 Additional Leadership and Administrative Roles

1)**Treasurer Responsibilities:**

The Treasurer is responsible for:

a) Managing the society's finances.

b) Handling all banking and financial transactions with the Chair.

c) Managing general correspondence.

d) Maintaining and reporting financial records.

2) **Creation and Cancellation of Roles:**

Additional leadership or administrative roles can be established or cancelled by a two-thirds majority vote of the CoL or the GA, with a quorum of 50% required.

§11 Financial Affairs of the Society

1) **Financial Management:**

The Treasurer, in conjunction with the CoL, manages the society's finances.

2) **Credit Restrictions:**

The society will not seek credit or overdraft facilities without the agreement of the Chair, Vice-Chair, Secretary, and Treasurer.

3) **Sponsorship:**

The society aims to attract corporate sponsors to finance its activities.

4) **Annual Financial Report:**

An annual report detailing income and expenditure will be made available for members' inspection. Its draft will be sent to all members by e-mail, its approved final version will be published on the website.

5) **Voluntary Service:**

CoL members work voluntarily without payment, but expenses incurred during society business may be reimbursed with CoL majority approval.

§12 Liquidation or Dissolution of the PLANTMETALS Society

1) **Asset Distribution:**

Upon liquidation or dissolution, the liquidation balance will be transferred to one or more non-profit organizations with similar objectives as decided by the GA.

§13 Final Provisions

1) **Transitional Provisions:**

a) Pursuant to §6/1b, the officers of COST PLANTMETALS shall be deemed to be officers of the PLANTMETALS Society until the first GM, which shall conduct a new election.

b) Members as of the effective date of these Statutes are deemed to consent to having their details recorded in the membership register.

2) **Effectiveness:**

These Statutes take effect on the date of registration of the association in the association register, i.e. on the date of the association's establishment.