



Anlage 1

Education Concept and Scientific Support Program

The structure of the scientific support program of the ATSAF Academy, as well as the guidelines for the participation in the modules can be found here:

<https://academy.atsaf.org/en/academy/atsaf-academy-stipend>

Scholars must be actively participating in the ATSAF Academy and enrolled in a structured PhD program at the supervising university. In order to receive the ATSAF Academy certificate of completion, scholars must complete following modules:

Module 1: Mandatory module at the supervising university – usually a module on scientific working

Module 2: ATSAF Academy “Seminar on development oriented agricultural research”

Module 3: ATSAF Academy “Topic-specific module in the context of the research work of the PhD project”

All modules should have the equivalent of 6 ECTS points. This represents an average total amount of work of 150 - 180 h, with 56 h of class attendance and 94 - 124 h of self-studying. The modules must be completed with a grade minimum or better than B- (75%).

Three online workshops were held in December 2021 with all 25 ATSAF Academy scholars and their supervisors from the CGIAR Centers and supervising universities. The concept for the scientific support program and module guidelines was presented. Furthermore, the workshops were aimed at discussing expectations, questions, demands and potential contributions regarding the ATSAF Academy program in general, and more specifically, to brainstorm and structure ideas about potential seminar topics for Module 2.

Based on the input and results from these workshops, the following structure and selection of topics for the seminar series was derived:

1. The seminar sessions will be held in an alternating schedule on Mondays (16:00 – 19:30, UTC+1) and Fridays (8:30 – 12:00, UTC+1), in order to make it possible for the scholars to attend the sessions, as the range of timezones the scholars are residing in covers the extent from Asia/Oceania to the South America.
2. The online collaboration platform “Stackfield” will be used for all communication and organisation purposes regarding the seminar series.
3. All regular session will be held on ZOOM. Irregular sessions can be scheduled on ZOOM or Stackfield, depending on the number of participants. Whenever possible, sessions will be recorded and made available via file-hosting on Stackfield. Additional audio-visual education material can be recorded in ATSAF Academy office.
4. The online collaborative whiteboard tool “Miro” was selected to provide an interactive option for collaboration within the seminar sessions.
5. The list of topics suggested in the workshops was structured into three broad categories for the seminar series:



- a. Framework topics (external presenters)
 - b. Topics for scholars
 - c. Tearoom topics (off schedule and self-organized)
6. These lists are work-in-progress documents, which will be expanded upon with potential presenters and additional topics during the course of the program.

1. ATSAP Academy Seminar Series – Framework topics

Six framework topics have been derived to structure the topic selection for the seminar series. These topics can be addressed from multiple perspectives. Therefore, multiple external presenters will be invited to present their research on a certain topic as a basis for discussion within the seminar sessions. The list is a work-in-progress and potential presenters have yet to be confirmed.

1. Paradigm shifts in agricultural research

- a. What do politics have to do to develop a sustainable agriculture?
- b. Nexus between agriculture, food security and conflict
- c. Adoption and innovation theories in the agriculture sector
- d. Paradigms in agricultural research and shifts in the discourse of how to maintain food security

2. Water use and water scarcity – Rights, laws, conflicts of water use

- a. Will there be wars for access to clean water?
- b. Water scarcity from different perspectives - Research, policy and practice

3. Societal resistance, obstructions, hurdles, and obstacles in the pathway to sustainability

- a. Gender dynamics in agricultural research for development (Holger Kirscht)
- b. Research and field work in post-conflict contexts
- c. Human dimensions of environmental change - analysis of socio-ecological systems (Prof. Dr. Mark Rounsevell)

4. Nature protection, climate protection, food security and biodiversity

- a. Agroecology to foster resilience towards climate change
- b. Is organic farming sustainable at the global level?
- c. Adapting agricultural systems to climate change (Prof. Dr. Cristoph Gornott)

5. Technology & Innovation - Strengths, weaknesses, opportunities & threats

- a. How can data driven agro-advisors help smallholders? (Dr. Daniel Jimenez)
- b. Big data analysis
- c. How can we solve the problem of data limitation for sustainable intensification in smallholder farming in the global south? (Prof. Dr. David Lobell)
- d. Agriculture 4.0 - What is available, what is possible, how is everything connected?
- e. Technological progress and poverty eradication
- f. Sustainable agricultural technology/Impacts of agricultural technologies
- g. Emerging technologies - Ethical and regulatory concerns
- h. Will city farming have an impact on traditional agriculture?

6. Stand-alone topics

- a. Key skills for a researcher in an international environment
- b. Introduction to the CGIAR System (Sebastian Lesch, Dr. Sarah Schmidt)
- c. Science communication skills
- d. A rulebook to conduct sophisticated interdisciplinary research (Prof. Dr. Brigitte Kaufmann)



2. ATSAF Academy Seminar Series – Topics for Scholars

In order to earn their ECTS credit points, scholars can choose from the following list of topics for the preparation and presentation of their own seminar session (or make a suggestion for their own ideas for topics):

1. Successful application of research outcomes for sustainable agricultural development - Examples and lessons learned
2. Participatory and gender inclusive research tools & methods
3. Impact of agricultural technologies and innovation on gender equality and women's empowerment
4. Gender equality and women's empowerment in agricultural value chains, markets and entrepreneurship
5. Gendered labour dynamics and time use - Drivers and impacts of labour patterns, access to jobs and economic decision making
6. Transforming gender norms - Pathways to gender equality in agriculture
7. Greenhouse gas emissions from (sub) tropical agricultural systems - Opportunities for mitigation
8. The impact of climate change on human nutrition - Food security in the 21st century
9. Climate tipping points - The Achilles Heels of the Earth System
10. Climate justice - The ethical dimension of climate change
11. Foodborne zoonoses - How do zoonoses affect food chains?
12. Neglected tropical diseases - Roadmaps to paving the way for a healthier future
13. One-health concept in relation to agricultural production
14. Sustainable agricultural production - Producing rice in the context of climate change
15. Intersectoral dependencies - The Energy-Water-Land nexus in the context of agricultural research and policy
16. Sustainable intensification in developing countries - Win-win or trade-off?
17. Sustainable weed management using crop diversification - A way to reduce the dependency on herbicides?
18. Scale effects in agricultural research - Good for the field, bad for the landscape?
19. Responsibilities of sustainable consumption - Consumers, producers and policy makers
20. Indoor Farming - A viable alternative to conventional agricultural production?
21. Permaculture - Do the long-term benefits outweigh the shortcomings?
22. Agroecology movements in the Global South - Challenges for the implementation of agroecological transitions
23. Reversing degradation processes - Effective strategies for the restoration of drylands
24. Modelling agricultural systems - Recent advances in methodology and application potential
25. The utilisation of agricultural products in industrial material flows - Recent developments from the bioeconomy
26. Innovations in agriculture and the role of research and development
27. Digitalisation in advisory & information services for smallholder agriculture
28. Digital technologies for market linkages, financial access, and supply-chain management
29. Concepts of development-oriented agricultural research - Where are we coming from and what's the way forward?
30. Clearing forests for agricultural production - Unravelling the paradox



3. ATSAF Academy Seminar Series – Tearoom topics

Additional topics were suggested in the workshops (December 2021) but were deemed to be too specific for the regular seminar dates. For these cases, so called “Tearooms” will be opened on Stackfield to provide a platform for the self-organisation of off-schedule sessions for the scholars. External experts can be invited to “Tearooms” where smaller sessions, that are too specific for the whole group of scholars, can be held. Using Stackfield for this “Tearoom” concept provides the additional opportunities for mutual learning, informational and social exchange and networking.

1. Statistics for biological data - How to deal with the problem of small sample sizes?
2. Sharing field experiences from different geographical and socio-cultural areas concerning successful strategies to increase food security
3. Problems in comparing data and outputs from greenhouse & field experiments
4. Transforming research outputs into products that can be utilised by development (organisations)
5. Qualitative research design and methods
6. Statistical analysis tools (especially R software)
7. Digital tools for overcoming challenges during COVID-19 times
8. Combining academia and activism - Are these contradictory spaces?
9. How to build a career at a German university
10. GIZ as an employer for people with a PhD
11. Institutional transformations from social movements
12. How to create a spin-off/start-up?
13. Going into consultancy after the PhD



Guidelines

Modules that must be attended within the ATSAF Academy

Scholars must actively participate in the ATSAF Academy and be enrolled in a structured PhD study program at the supervising university. To receive the ATSAF Academy certificate of completion, scholars must complete following modules:

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Module 1

Module 1 is a mandatory module at the supervising university, which in most cases represents a PhD-level course on “**Scientific Working and Writing**”. The scholars will be trained with a diverse array of methods covering the baselines of scientific working and writing. The gained competences will on the one hand support the successful completion of the individual PhD projects of each scholar, and, on the other hand, deliver a scientific “toolbox” to cope with the prospective challenges approaching during their future careers as researchers.

Module 2

Module 2 is the **ATSAF Academy “Seminar on development oriented agricultural research”**. The seminars will be held online on fixed times and days: Monday evening session (16:00 – 19:30 h German time, UTC+1) and Friday morning sessions (8:30 – 12:00 h German time, UTC+1). One session is comprised of 2 x 90-minute units. Presenters in the seminar series can be ATSAF scholars (mandatory), external experts invited by the ATSAF Academy Team, as well as supervisors and staff from the collaborating CGIAR centers and universities. The scheduled program will be made available to the scholars via the ATSAF Academy webpage once the initial dates are set up and will be updated on a regular basis. The scholars must take part in at least **14** seminar sessions to receive 6 ECTS points and fulfil the requirements to be graded.

The grading of a seminar session consists of:

- a) the organization of a seminar presentation (one 90-minute block), which accounts for 70% of the final grade of the module, and
- b) the preparation of a seminar report afterwards, which accounts for 30% of the final grade of the module.

Scholars will be able to choose a seminar topic from a list of different topics offered on the ATSAF Academy webpage. The list will be based on the topic suggestions from the ATSAF Academy workshops (December 2021) and updated on a regular basis. In addition to the list, alternative topic suggestions can also be discussed with the ATSAF Academy Team. The chosen topic should not be related to the topic of the respective PhD-research project.

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The topic presentation during the seminar should consider different didactical methods, thereby promoting an interactive character of the seminar involving all participants. The online collaborative whiteboard platform miro (www.miro.com) can be used for this. Please contact Dr. Kevin Thellmann (kt@atsaf.de) if you want to use miro for your seminar session.

The seminar report (5 to 10 pages plus annex, as a pdf-document) should refer to the preparation and literature review of the topic as well as the results of the presentation and discussions during the seminar session. Please use the following structure to organize the seminar report:

- 1) Topic and introduction: Including the motivation for the topic, definition of the scope, and clear descriptions of the aims and objectives of the seminar.
- 2) Review: Prepare a review of the most relevant literature and state of the art of the topic.
- 3) Materials and methods: Describe how information was collected, how data was selected, how the topic was prepared, and which didactical methods/media were chosen for the seminar session. Why are the methods used suitable to reach the aims of the seminar? Furthermore, please give a brief outline (see Table 1 below) of the seminar session. It should be broken down by didactical units including content and activities, media and methods used, as well as the approximate time spent for each didactical unit.
- 4) Discussion: The discussion should include a reflection of the seminar and knowledge gains of the participant group. Were the selected methods suitable to achieve the aims and objectives of the seminar? What issues were discussed in the group? Please summarize the discussion results. What was the take home message?
- 5) Conclusions: Wrap up the report with a concise paragraph of conclusions from your seminar session.
- 6) Annex: Please add the list of references used (including homepages, links to video material, etc.), your seminar presentation as a .ppt or .pdf file, screenshots of the digital whiteboard work, etc.



Table 1: Example outline of a seminar session

Didactical unit	Content/Activity	Media/Method	Time
Introduction/Motivation	Give a brief description of the content and aims of the didactical unit (e.g. knowledge transfer of the topic background, querying the participants knowledge on the topic, etc.)	List the methods and media used e.g. powerpoint presentation, worksheet, brain-storm, group work, whiteboard, discussions, Q&A, polls, etc.)	Give the approximate time in minutes (e.g. 15 min.)
Elaboration phase 1	e.g. participants take part in a quiz round, poll or experiment	...	...
Summary/results phase 1	e.g. answers are collected and summarized	...	...
Break	...	...	...
Elaboration phase 2	...	...	...
...
Summary of the seminar	...	...	...
Conclusions	...	...	...

Module 3

Module 3 is the **ATSAF Academy "Topic-specific module in the context of the research work of the PhD project"**, which will be structured by the individual needs and interests of the scholars related to the research topic of the corresponding PhD project. It needs to be an international module on a PhD-level at a center of excellence, a university, summer school, or an international enterprise, equivalent to 6 ECTS points. The module can therefore be completed by an individually arranged (and graded!) internship with another scientific institution meeting the standards for modules of universities. The content of the module should be defined at latest 18 months after the beginning of the PhD study program in consultation with the supervisor or the supervising team and the ATSAF Academy.

A description of the module content confirmed by the hosting institution should be presented to the ATSAF Academy Team for approval. In addition to that, a list of expected costs necessary to complete the module (course fees, flight and local travel costs, accommodation costs) should be compiled and presented to the ATSAF Academy Team for approval. Support for costs related to the third module can be obtained from the ATSAF Academy up to 3.000 € upon application. In order for the costs to be covered by the ATSAF Academy, please make sure to send all relevant copies of invoices to the ATSAF Academy Team.