

Preface to the Constitution of the National Astrophysics and Space Science Programme (NASSP)

NASSP has always operated without a formal constitution that outlines the basis of collaboration and co-operation amongst the participating institutions. However, significant changes are now in progress, in particular the establishment of additional nodes at the University of KwaZulu-Natal and the North-West University, as well as operational changes in response to the NRF-initiated review of the programme by Professor Fritz Hahne in 2012. Furthermore, it is planned to create equivalent NASSP programmes in especially the SKA SA African partner countries when the need arises and in support of the South African hosted Pan African University for Space Science. The intention is for this constitution to be a 'living document' which will be re-visited on a three-year cycle for improvements and updates to keep abreast of the evolving NASSP system.

NASSP commenced in 2003 without any formal agreement amongst the participating institutions; the need to develop skills in Astrophysics and Space Physics has now become a critical challenge as South Africa embarks on Astronomy on a grand scale with the operationalizing of SALT and the hosting of SKA, the establishment of SANSA, and involvement in H.E.S.S. and the proposed CTA.

The University of Cape Town (UCT) was the initial host of NASSP, and in 2006, UCT because of its strength in astronomy, was requested by the NASSP Steering Committee to continue as host.

The planned growth of NASSP including the increase in the number of participating institutions, now requires a formal process which outlines the role and responsibilities of participating institutions in the management and operation of NASSP. It is clear that the small number of South African astronomers, and particularly the paucity of black South African astronomers, remains the biggest threat to the future development of astronomy in the country.

Astrophysics and cosmology have been among South Africa's strengths for many decades. In 2000 there was a concentration of expertise in Cape Town, at SAAO and UCT, but there were other small pockets of excellence around the country. There was the opportunity of developing a broad-ranging multi-wavelength teaching programme provided there was national cooperation, rather than competition, to realize this potential. The strong interest and early involvement of the USA National Society of Black Physicists offered the exciting potential of developing early and strong links between the next generation of African astronomers and the USA community.

The recent growth in radio astronomy in Southern Africa that has accompanied the construction of KAT-7, leading to MeerKAT and the recent decision to build the major part of the SKA in South Africa and the African partner countries, has only increased the need for a programme such as NASSP.

NASSP currently includes honours and Masters programmes as well as a *bridging programme* for previously disadvantaged South Africans (since 2008). The original concept of a joint degree programme shared amongst the universities participating in the programme was not possible within the legislative framework of the time, and this continues to be a challenge today. As most of the students entering NASSP have no prior astronomy or space physics experience (although this is now changing), all of the honours courses are compulsory within the streams of astrophysics and space physics. Masters students do one semester of course work.. Thereafter, the students select research projects from amongst those proposed by researchers at the node and partner institutions. Masters students move to the institution of their supervisor to conduct their research project and register at the university of their supervisor.

The NASSP Post-Graduate Bridging (PGB) Programme (previously known as the Extended Honours Programme) was introduced in 2008, specifically to address the challenge of encouraging black South Africans to enrol for post-graduate astronomy and space physics programmes. The PGB-Programme has enjoyed strong support from the Academic Development Programme (ADP) within UCT's Centre for Higher Education and Development (CHED) and this aspect is seen as key to its development. This PGB-Programme will now serve all NASSP nodes.

In 2003, its first year of operation, NASSP obtained funding from the University of Cape Town, the Ford Foundation, and the NRF (grant holder linked bursaries). In subsequent years, additional funding was received from the Mellon Foundation, the Cannon Collins Trust and the Kellogg Foundation (the latter via the USA National Society of Black Physicists for the support of African students and lecturers). From 2007, the Department of Science and Technology

(DST) provided the major source of funds through a grant administered by the NRF. Since 2007, the SKA SA project has also made contributions by supporting bursaries for individual students.

There is, however, an on-going need to raise external funding, for example through the African European Radio Astronomy Platform (AERAP) to supplement the grant from the SA government, in particular to cover the costs of bringing non-South African students into the programme from elsewhere in Africa.

NRF acknowledges and supports other routes to achieving pre-doctoral training of students in South Africa beyond NASSP.

Constitution of the National Astrophysics and Space Science Programme (NASSP)

1. **Definitions**

- 1.1. **Node Institution** is a university at which a NASSP programme is operated and managed and whose regulations and standards govern NASSP's academic programme.
- 1.2. **Partner Institution** is an institution that has signed a memorandum of agreement with a Node Institution and participates in the NASSP programme.
- 1.3. **NASSP Consortium** refers to the members nominated by institutions and the Project Directors of the nodes.
- 1.4. **Executive Steering Committee** is the formal governing and executive body of NASSP.
- 1.5. **Programme Director** is the person responsible for managing the NASSP programme at each node.
- 1.6. **PGB-Programme Convenor** is the person responsible for the *Post-Graduate Bridging Programme*.

2. **Mission:** To empower South African and foreign African students to embark upon post-graduate studies in astronomy, astrophysics and space physics by providing them with the necessary skills, knowledge and inspiration. By harnessing national expertise and resources and taking advantage of global networks, NASSP is committed to producing honours and Masters graduates whose qualifications are internationally competitive and locally applicable. The programme promotes diversity and transformation while growing the next generation of graduate astronomers and space physicists who enter and contribute to the South African work force, where skills in mathematics and physics and a command of research methods are advantageous.

3. **Vision:** To create human capacity in astronomy and space physics, particularly in under-represented communities, and to build a cohort of scientists at the core of an international network of African astronomers, space physicists and citizens, who are bonded by the common experience of schooling, interlinked both professionally and personally and able to make a major contribution to the transformation of society.

4. **Objectives:** The primary purpose of NASSP is to develop Human Capital by encouraging motivated undergraduates with related or other appropriate first degrees to pursue honours and Masters studies in astronomy, astrophysics and space physics, and prepare them to enter the job market or continue with PhD programmes in South Africa or internationally. Transformation is at the core of NASSP's objective to build a fully representative community of astronomers, astrophysicists, space physicists, and cosmologists who participate in the South African and pan-African science enterprise or in other professions that depend on highly-skilled and innovative people. Furthermore, NASSP nurtures a well-connected community of young scientists who have the opportunity to assume leadership roles in building the South African and Pan-African astronomers, astrophysics, space physics and cosmology endeavour.

5. **The NASSP Consortium:** This body shall consist of members nominated by institutions as well as the Project Directors of the nodes. The consortium will be used as a platform to discuss all operational aspects of NASSP at the nodes as well as develop proposals for subsequent presentation and approval by the Executive Steering Committee. The discussions will focus on areas of mutual interest as well as the *modus operandi* for the running and management of NASSP at the nodes. The consortium members will be:

- I. Formally nominated by the respective institutions, the nomination must be by the individual's Head of Department at least;
- II. No more than one from each institution;
- III. The Programme Directors from the nodes;
- IV. Given the responsibility of electing a Chair of the Consortium for approval by the Deputy CEO (Astronomy) of the NRF;
- V. Required to meet at least once a year at the SAIP conference.

6. **The Executive Steering Committee(ESC):** This committee will be the executive authority for NASSP at all participating nodes and will consist of:

- I. The Programme Directors of the nodes;
- II. A representative from the NRF Astronomy sub-Agency; and,
- III. The Chair of the NASSP Consortium

The Chair of the ESC will be a Programme Director on a rotational basis every two years.

- 7. Responsibilities of the Executive Steering Committee:** The ESC shall:
- 7.1. serve as the Executive Committee of NASSP and has the responsibility to provide strategic direction to the programme;
 - 7.2. approve Node and Partner institutions,
 - 7.3. have primary responsibility for developing the fundraising strategy and for acquiring funds to manage and operate the programme;
 - 7.4. be responsible for approving the contents of the programme curriculum and the Post Graduate Bridging Programme and the subsequent submission to the respective institutions' authority for accreditation.
 - 7.5. appoint members to the Academic Working Committee;
 - 7.6. consider and approve the individual business plans prepared by each node and be responsible for the compilation of the consolidated Business Plan for the securing of funds;
 - 7.7. consider and approve the business plan for the Post Graduate Bridging Programme and be responsible for integrating this into the consolidated Business Plan;
 - 7.8. be responsible for producing the quarterly progress reports and the annual report which shall include student statistics, pass rates and a financial report; and
 - 7.9. be responsible for approving the annual budget for each Node, the Post Graduate Bridging Programme and the Winter and Summer Schools in line with the available funding.
 - 7.10. Consider recommendations/proposals from the NASSP Consortium for subsequent action/implementation

8. Meetings of the Executive Steering Committee:

- 8.1. Meetings of the Steering Committee shall be held least three times a year and there will also be an annual meeting with the Deputy CEO (Astronomy) and the Chief Specialist (Astronomy) of the DST. Costs for these meetings to be included in the NASSP annual budget. The venue for each meeting to be mutually agreed to by the members of the ESC.
- 8.2. Participation by remote communication (e.g. skype, video conferencing, etc.) to be facilitated whenever possible.
- 8.3. A quorum shall be 60% of membership.
- 8.4. Decisions of the ESC shall be made by consensus or by a vote if no consensus is reached.
- 8.5. Decisions taken by vote shall require 50% plus one of the votes cast, except on matters related to changing the constitution (see section 22);
- 8.6. The Chair of the ESC has the authority to invite other participants to attend meetings of the committee where she/he considers this to be in the interests of NASSP; this includes the convenor of the Post Graduate Bridging Programme; such persons shall not have any voting rights.

9. Establishment of a Node Institution:

- 9.1. Prospective Node Institutions shall be required to submit proposals to the ESC to host a node by no less than 18 months prior to the commencement of the new hosting term.
- 9.2. An institution shall be required to host a node for a five year term and is eligible to host the node for further terms of 5 years.
- 9.3. The ESC shall approve the hosting of a node no less than 12 months prior to the commencement of the new hosting term.

10. Responsibilities of the Node Institution: The Node Institution shall:

- 10.1. facilitate internal processes to allow for the awarding of the honours and Masters degrees at its institution.
- 10.2. be allocated a minimum of 60% of the honours bursaries, some of which may be offered to Partner Institutions if they are not taken up at the Node Institution;
- 10.3. advertise and recruit its own students and only accept students for registration at the Partner Institution on condition that these students are first approved by the NASSP Academic Working Committee;
- 10.4. host the NASSP honours programme and the NASSP Masters teaching programme, and provide for all the operations for the programmes;
- 10.5. allow all registered students access to its facilities such as libraries, computer equipment, network access and other resources that are required for the programmes;
- 10.6. provide all the facilities required to run the programmes at its premises;
- 10.7. compile the programme time table for the coming year by no later than end of November;
- 10.8. administer the tests and examinations during the year and appoint external examiners as appropriate;
- 10.9. facilitate the securing of accommodation for students requiring such facilities;

- 10.10. establish the post of the Programme Director at the Node Institution, and provide all the systems required for the administration of the programme including the Financial Systems;
 - 10.11. be responsible for all funds received at the node as well as the payment of all costs associated with the running of NASSP;
 - 10.12. maintain separate accounts for NASSP to facilitate the audit of income and expenditure as and when required;
 - 10.13. be free to enter into Partner arrangements with any other institution that it deems fit subject to approval by the ESC;
 - 10.14. invoice the Partner Institutions for "student visiting" fees for students registered at the Partner Institutions and pursuing NASSP at the Node Institution;
 - 10.15. be responsible for paying students monthly stipends and, if necessary, pre-fund such payments until funding is received from the designated funders; and
 - 10.16. pay to the Partner Institutions all student fees due at these Institutions.
11. **Partner institution:** The Partner Institution shall:
- 11.1. sign a MoA with the Node Institution to contribute resources to the NASSP programme with approval of the ESC, such commitment shall be for a term of three years, and may be renewed for further terms of three years by mutual consent;
 - 11.2. be allocated a certain maximum number of NASSP honours bursaries (stipulated in the MoA) in proportion to the resources committed by the Partner Institution to the NASSP programme at the Node Institution.
 - 11.3. advertise and recruit its own students and only accept students for registration at the Partner Institution on condition that these students are first approved by the NASSP Student Selection Working Committee;
 - 11.4. pay the Node Institution on invoice for "student visiting" fees for students registered at the Partner Institution and pursuing NASSP at the Node Institution; and
 - 11.5. facilitate internal processes to allow for the awarding of the honours and Masters degrees at its institution.
12. **National Facilities and Science Councils** that participate in the NASSP Programme shall have a similar status to Partner Institutions with the understanding that no students can register at a National Facility or a Science Council and no bursaries may be allocated to a National Facility or a Science Council.
13. **The delivery of the NASSP programme:**
- 13.1. The programme shall be delivered jointly by the Node and the Partner Institutions, and participating institutions should acknowledge this through an appropriate form.
 - 13.2. All unrecovered costs incurred by the Node Institution (excluding the commitments given by the Node Institution) shall be recovered equitably from the Node and Partner Institutions.
 - 13.3. The programme shall endeavour to find a 'cost-neutral' model for the financing of NASSP, with all expenses and income appropriately accounted for.
14. **Programme Directors:**
- 14.1. The node institution will appoint the NASSP Programme Director and inform the ESC of such appointment.
 - 14.2. Each Programme Director shall be a member of the academic staff of the respective Node Institution and shall be subject to the Node Institution Conditions of Employment.
 - 14.3. The Programme Directors shall be members of the ESC.
 - 14.4. The Programme Directors shall report on their Node Institution NASSP activities at each ESC meeting inclusive of student statistics and detailed financial reports.
15. **Responsibilities of the Programme Directors:** The Programme Directors shall:
- 15.1. Be responsible for the compilation of the curriculum at the node;
 - 15.2. submit an annual Node Institution business plan and budget to the ESC;
 - 15.3. report to the ESC on Node Institution NASSP activities, outcomes and expenditure;
 - 15.4. manage the Node Institution Budget;
 - 15.5. assist the ESC with fundraising;
 - 15.6. set the timetable for the Node Institution lectures and exams;
 - 15.7. chair meetings of the Node Institution Programme Committee;
 - 15.8. manage the Node Institution support staff;
 - 15.9. approve and manage the Node Institution tutors;

- 15.10. track Node Institution NASSP graduates;
- 15.11. oversee all Node Institution administrative processes and procedures to ensure the efficient and effective management and operation of the programme inclusive of accreditation of the curriculum;
- 15.12. Compile Standard Operating Procedures for the operation of NASSP at the node.

16. Node Institution Programme Committee

- 16.1. There shall be a NASSP Programme Committee at each Node Institution which shall be responsible for the day-to-day management of NASSP at the node and shall be chaired by the Node Institution Programme Director.
- 16.2. The Node Institution shall be responsible for constituting the Node Institution Programme Committee; the Partner Institutions may be represented;
- 16.3. Each Node Institution Programme Committee shall meet as often as necessary and, if possible, facilities shall be provided to allow members to join the meeting remotely (e.g. skype, video conferencing, etc.).
- 16.4. The minutes of the meetings of the Node Institution Programme Committee shall be made available to the ESC.

17. Academic Working Committee

- 17.1. The ESC shall appoint members to the Academic Working Committee for a three year term which shall meet as often as necessary and, if possible, facilities shall be provided to allow members to join the meeting remotely (e.g. skype, video conferencing, etc.).
- 17.2. The Programme Director of each node shall be a member of the Academic Working Committee; the Partner Institutions shall be represented; other members may be appointed by the ESCS to ensure that the necessary expertise is available amongst the programme sub-disciplines;
- 17.3. The Chair of the Academic Working Committee shall be appointed by its members.
- 17.4. The Academic Working Committee advises the Programme Director(s) at the Node Institution(s) on the development of the curriculum, teaching methods, the assignment of lecturers, methods of evaluation, to ensure academic standards across institutions participating the programme, report to the ESC, provide advice on academic issues related to the NASSP programme, and implement the academic programme approved by the ESC and accredited by the respective institutions.
- 17.5. The Academic Working Committee shall identify /endorse students selected by the node and partner institutions, for acceptance into the NASSP honours and Masters programmes.
- 17.6. The Chair of the Academic Working Committee shall issue a call by no later than August preceding the academic year to the Astronomy and Space Physics Community to provide honours and/or Masters projects that can be assigned to students for the next academic year; institutions must be capable of supervising students who will be assigned such projects. Prospective supervisors may submit as many projects as they wish, but may supervise no more than two NASSP Masters students in any given year.
- 17.7. The Academic Working Committee shall assign projects to students in consultation with the student after taking cognisance of the desired field of interest of the student as well as his/her academic performance.

18. Honours students:

- 18.1. Honours bursaries shall be allocated to the Node Institution and to the Partner Institution(s) in an agreed ratio stipulated in the signed MoA; the number of honours bursaries allocated to each Partner Institution shall be in proportion to the resources committed by the Partner Institution to the teaching of the honours and Masters programmes at the Node Institution.
- 18.2. The honours student shall register at the institution of his/her choice, i.e. at either a Node Institution or a Partner Institution subject to him /her securing a NASSP bursary from the corresponding institution;
- 18.3. All student fees due, shall be paid to the admitting institution as set by that institution for students that will be registered at this institution, whilst a "exchange/visiting student" fee, to be agreed by the NASSP Steering Committee, shall be paid to the Node Institution for all students registered at partner institutions.
- 18.4. The student shall receive a stipend which will be net of all fees due to the institution(s) to cover accommodation, living expenses and study materials.
- 18.5. Students shall attend a full year of NASSP honours at the Node institution.
- 18.6. The student shall graduate with a degree from his/her admitting or home institution; the degree certificate shall reflect all organisations that contribute to the programme at the Node Institution.
- 18.7. The home institution shall claim the Department of Higher Education output subsidy for graduating the student, and also research publication credits from student publications.
- 18.8. All honours bursary allocations not taken up by the Partner Institution in any particular academic year shall automatically revert to the Node Institution.

19. Masters students:

- 19.1. Masters bursaries shall be allocated to the Node Institution and to the Partner Institution(s) based on the projects chosen by the student and the affiliation of his/her primary supervisor.
- 19.2. The Masters student shall choose his/her Masters project and supervisor no later than January of the year of study for the Masters degree, and shall register at the institution of his/her supervisor.
- 19.3. All students will pay fees to the admitting institution for students registered at this institution and a “visiting /exchange student” fee, to be agreed by the NASSP Steering Committee, shall be paid to the Node Institution for students registered at partner institutions.
- 19.4. The student shall receive a stipend which will be net of all fees due to the institution(s) to cover accommodation, living expenses and study materials.
- 19.5. The student shall attend six months of coursework at the Node Institution.
- 19.6. The student shall graduate with a degree from his/her admitting or home institution; the degree certificate shall list all organisations that contribute to the programme at the Node Institution.
- 19.7. The home institution shall gain Department of Higher Education subsidy credits for graduating the student, and also research publication credits from student publications.
- 19.8. All Masters bursary allocations not taken up by the Partner Institution in any particular academic year shall automatically revert to the Node Institution.

20. Lecturers in the NASSP Programme:

- 20.1. The Node and Partner Institutions shall agree on the lecturing/workshop/laboratory/project work allocation for both the honours and Masters teaching programmes, and the Partner Institution commitment shall be stipulated in the signed MoA.
- 20.2. The Node Institution shall be responsible for the costs of travel, subsistence and local accommodation for visiting lecturers who reside outside the locale of the hosting institution. Such costs will be included in the annual operating budget of the node.
- 20.3. There shall be no honorarium paid to the lecturers who are in full employment at participating institutions for teaching in the NASSP programme.
- 20.4. There shall be no charge levied by the lecturer’s home institution for teaching in the NASSP programme.
- 20.5. The daily subsistence allowance shall be agreed by the ESC and must not exceed the SARS tax free allowance.

21. **Postgraduate bridging programme:** There shall be only a single Postgraduate Bridging Programme that serves NASSP, and the Node Institution for this Programme shall be selected by the ESC for a 5 year period and may be extended on approval by the ESC.

22. Changes to the Constitution:

- 22.1. Any proposed changes to the constitution must be submitted in writing to the Chair of the ESC together with a motivation for such changes; such proposed changes may be submitted by any member of the NASSP Consortium or by the NRF Deputy CEO: Astronomy.
- 22.2. All changes shall require approval by at least 75% of the voting ESC members; and approval by the NRF Deputy CEO Astronomy).
- 22.3. This Constitution shall be subject to review in consultation with the broad South African Astronomy and Space Physics Community on a three year cycle.

Signed on this ____ of _____ at _____

CHAIR-NASSP EXECUTIVE STEERING COMMITTEE

Signed on this ____ of _____ at _____

NRF DEPUTY CEO (ASTRONOMY)

National Astrophysics and Space Science Programme (NASSP)

Memorandum of Agreement

Between

The Node Institution
Institution name and address

And

Partner Institution
Institution name and address

And

The NASSP Executive Steering Committee

(Hereafter referred to as the parties)

1. Agreement:

- 1.1. The parties have agreed to collaborate on the delivery of the NASSP programme at the Node Institution in accordance with the Constitution of the National Astrophysics and Space Science Programme.
- 1.2. *(Not applicable in the case of a National Facility or a Science Council)* The Node and Partner Institution shall facilitate agreements and arrangements consistent with each other's internal Senate rules, policies and procedures to permit the honours and Masters students to be able to graduate with degree certificates from their home institutions, for example by way of joint degrees, or co-badged degrees, or single institution degrees, etc. The degree certificate shall list all organisations that contribute to the programme at the Node Institution.
- 1.3. The Partner Institution shall make the following contributions to the hosting of the NASSP Programme at the Node Institution:
 - 1.3.1. Statement 1
 - 1.3.2. Statement 2
 - 1.3.3. Statement 3,
 - 1.3.4. Statement 4,
 - 1.3.5. Statement 5,
 - 1.3.6. Statement 6, etc
- 1.4. *(Not applicable in the case of a National Facility or a Science Council)* The Node shall allocate a maximum number of *(put actual number here)* _____ Honours and *(put actual number here)* _____ Masters bursaries to the Partner Institution.

2. Duration and termination

- 2.1. This MoA shall take effect upon signature by all parties ("the Effective Date"). It shall remain in force for three years from the Effective Date and can be extended by mutual agreement.
- 2.2. This MoA may be terminated by any party for any reason good in law provided that such notice is given no less than six months prior to the end of the academic year.
- 2.3. The termination of this MoA shall not affect a party's obligations as at the date of such termination.

3. Dispute Resolution: Should any dispute arise out of or in connection with this MoA, or its interpretation, the parties shall endeavour to resolve such a dispute in an amicable manner.

4. Branding, Marketing, Advertising and Publications: The use by either of the parties of the others' logos, letterheads or any other material for any advertising or promotional purposes must be done only after written consent of the other party is obtained.

5. **Status of this MoA:** This MoA is based on good faith and the spirit of co-operation between the parties hereto.

6. **Three Copies:** This MoA is signed in three copies.

For the Node Institution Signed on this ____ of _____ at _____	
Dean or equivalent of Node Faculty	

For the Partner Institution Signed on this ____ of _____ at _____	
Dean or equivalent of Partner Faculty	

For the NASSP Executive Steering Committee Signed on this ____ of _____ at _____	
Chair of the NASSP Executive Steering Committee	