Kigali,......16...../....12...../2019
REF: DVC-FIN/...0735...../2019

TO WHOM IT MAY CONCERN:

Expression of Interest No.: 003/S/CEBE/UR-SPIU/2018-2019/ADF related to the Consultancy Services to deliver the Academic Services under the East Africa's Centre of Excellence for Biomedical Engineering *and e-Health (CEBE)*

Loan Nº: 2100150031998
IFB Nº: 001/W/CEBE/UR-SPIU/2018-2019

...16ᵗʰ... **December 2019**

The Government of Rwanda has received financing from the African Development Bank towards the cost of Regional Centre of Excellence in Biomedical Engineering and e-Health (CEBE) Project. It is intended that part of the funds of this loan will be applied to eligible payments under the contract for the **Consultancy Services to deliver the Academic Services under the East Africa's Centre of Excellence for Biomedical Engineering and E-Health (CEBE).**

In order to update the existing database and to recruit for the new professional courses, the Client now invites the interested **Individual Consultants** experienced and capable to express their interest in providing the following services.

I. MASTER'S DEGREE COURSES IN BIOMEDICAL ENGINEERING

Module	Total (Hrs)	Minimum Qualification of the Trainer
Biomedical Measurements Technology	100	PhD in Biomedical engineering, bioengineering, Neural Engineering with expertise in bio-medical sensors and data acquisition technology, bio-signal processing, recording and analyzes. Having minimum 3 years work experience in Biomedical measurement technology. Having a grade of Associate Professor and above is an added value.
Advanced Embedded System Design and Applications	100	PhD in Computer Science, Electronics Engineering, having minimum 3 years work experience in Advanced Embedded System Design and Applications. Having a grade of Associate Professor and above is an added value.

Biomaterial and Tissue Engineering	100	PhD in Biomedical Engineering, Bioengineering, Polymer Engineering, Material science, Having 3-year work in bio-materials, Molecular Biology, Biochemistry. Having a grade of Associate Professor and above is an added value.
Biomechanics and Bio robotics	100	PhD in Biomechanics, Bio robotics with minimum of 3 years work experience in Biomechanics, Bio robotics. Having a grade of Associate Professor and above is an added value.
Medical Imaging Systems	150	PhD degree in Biomedical Engineering, Electronics Engineering, with a minimum of 3 years work experience in medical imaging systems. Having a grade of Associate Professor and above is an added value.
Medical Image Processing	100	PhD in biomedical engineering, biophysics, electronics engineering with prior hands on experience in image processing software (matlab, python, open CV, C/C++), and minimum of 3 years' work experience in medical imaging processing. Having a grade of Associate Professor and above is an added value.
Healthcare Technology Management	140	PhD in Biomedical Engineering, Clinical Engineering, and Electronics with a minimum of 3 years work experience teaching the Healthcare Technology Management. Having a grade of Associate Professor and above is an added value.
Medical Devices Development	100	PhD in Electronics Engineering, Biomedical engineering, Mechanical Engineering with a minimum of 3 years work experience in the development of medical devices. Having a grade of Associate Professor and above is an added value.
Orthopaedic and Mobility Devices Engineering	100	PhD degree Biomechanical engineering. Having a minimum of 3 years work experience in design and development of orthopaedic, prosthetic and other mobility related devices. Having a grade of Associate Professor and above is an added value.
BioMEMS - Design and Applications	100	PhD in Biomechanics, nanotechnology, microfluidic systems, mechanical engineering with a focus on biosensors, micro fluidic devices. Having a minimum of 3 years work experience, having a grade of Associate Professor and above is an added value.

II. ADVANCED PROFESSIONAL TRAINING IN BIOMEDICAL ENGINEERING

Module	Period (Week)	Minimum Qualification of the Trainer
I. Healthcare Technology Management (HTM)	2	PhD in Biomedical engineering, Biomechanical Engineering, Bioengineering or Mechanical engineering, Electrical/Electronic engineering, with a minimum of 3 years' experience in Healthcare Technology Management (HTM) **Or** Master's degree in Biomedical engineering, Biomechanical Engineering, Bioengineering or Mechanical engineering, Electrical/Electronic engineering with 8 years' experience in Healthcare Technology Management (HTM).
II. Understand Hospital design	2	PhD degree in Biomedical Engineering, Environmental Design, Civil Engineering or Architecture with minimum 3 years' experience in Hospital design training. **Or** Master's degree in Biomedical Engineering, Environmental Design, Civil Engineering or Architecture with minimum 8 years' experience in Hospital design training.
III. Respiratory monitoring and cardiac equipment	4	Masters holder in Biomedical Engineering and related fields with minimum hands-on experience of 8 years in physiological signal monitoring equipment as a trainer.
IV. Laboratory equipment	4	Master's degree in biomedical laboratory sciences or related field with a minimum experience of 8 years as professional trainer in the field of medical laboratory equipment troubleshooting, maintenance and management.
V. Maternity and neonatology equipment	1	Master's degree in biomedical engineering, electrical/electronic engineering with 8-year experience as professional trainer in maternity and neonatology equipment troubleshooting, maintenance and management.

VI. Medical imaging equipment	**4**	PhD in medical imaging technology, biomedical engineering, medical imaging equipment with 3 years of work experience or Master's degree with 8-year experience as professional trainer in the field of medical imaging equipment troubleshooting, maintenance and management.
VII. Dental equipment	**1**	Master's degree in biomedical engineering with 8 years of work experience as professional trainer in the field of dental equipment troubleshooting, maintenance and management
VIII. Ophthalmology equipment	**1**	Master's degree in biomedical engineering with 8 years of work experience in the related as professional trainer in the field of ophthalmology equipment troubleshooting, maintenance and management.
IX. Medical gases system	**3**	Master's degree in Biomedical engineering or related field of engineering with 8-year experience as professional trainer in the field of medical gases system troubleshooting, maintenance and management.
X. Haemodialysis Machine	**2**	Master's degree in biomedical or electronic engineering, nephrology technology with 8-year experience as professional trainer in the field of haemodialysis machine troubleshooting, maintenance and management.

III. ADVANCED PROFESSIONAL TRAINING IN E-HEALTH

Modules	Weeks	Minimum Qualifications of the Trainer
Telemedicine applications	2	Applicant should hold a PhD in Health Informatics, Computer Sciences, Public Health, or related field with minimum of 3 years in conducting training in Telemedicine Applications **Or** Master's degree in Health Informatics, Public Health, or related field with minimum of 8 years in conducting training in the allied field.
Legal framework for e-health information systems	2	Applicants should hold a research PhD in Computer sciences, certified certificate in computer security with at least 3 years work experience application in e-Health security system.
Medical Coding	2	Applicants should hold a Masters in Health Informatics, Public health with strong experience in medical coding certification.

E-Health: Software Development and Implementation (EHSDI)	22	**1. <u>Electronic Medical Record (EMR) / Open MRS Developer and A trainer</u>** • Senior Java (J2EE) Developer (Servlets/JSP on Oracle App Server, Apache/Tomcat) Jasper Reports, Spring, REST API (for Web Services), Hibernate, JavaScript/JQuery • Familiar with (JDBC with Oracle, MySQL, AJAX, XML, XSLT, CSS Layout) • Health Information System knowledge, HL7, ISO, CNIL Standards implementations • Deployment application on Linux (CentOS) and Windows Client/Server • Proof of Java software developed by the applicant • Strong knowledge of Open MRS, Bahmni distribution and proof of a module(s) that works • Being a Community Open MRS Senior Developer will be a strong asset • The applicant should be able to develop and integrate Open MRS modules. Education: Master's degree in Computer Science, Statistics, Public Health or related discipline. Having PhD in Computer Science, Statistics, Public Health or related discipline will be an added advantage. **2. <u>DHIS2 Developer Specialist & Trainer</u>** • More than 5 years of experience in the development and operations of robust Health Information Systems (preference for all five years of DHIS2 knowledge and practical experience) including specific work supporting DATIM • (Either with our JSI teams or country-level health and DHIS2 teams) to get the design of any customization or application right. Then test it in country and tweak it. Finally, leave behind local capacity to continue to customize and/or trouble shoot. • Experience developing web-based and/or mobile applications, web-oriented programming language (e.g. Java, Java Script, PHP), and Unix/Linux system management. • Expert in the use of database management systems (MS-Access and Visual Basic are vital, SQL language, SQL server or MySQL preferred) and in the operating environment of Microsoft.

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- Demonstrated ability to work effectively and harmoniously in cross-cultural settings with other project staff, host country counterparts, USAID, consultants, other donors and international organizations
- Advanced degree (Masters of Public Health, Master of Science in Management Information System, Master of Arts(other) in computer science, informatics, public health or related fields such as health systems or health information
- Experienced in applying user-centered requirements processes

3. **Senior developer in OPEN CLINIC, RAPIDSMS, IHRIS**

- Senior Java (J2EE) Developer (Servlets/JSP on Oracle App Server, Apache/Tomcat) Jasper Reports, Spring, REST API (for Web Services), Hibernate, JavaScript/JQuery
- Familiar with (JDBC with Oracle, MySQL, AJAX, XML, XSLT, CSS Layout)
- Health Information System knowledge, HL7, ISO, CNIL Standards implementations
- Deployment application on Linux (CentOS) and Windows Client/Server
- Proof of Java software developed by the applicant
- Strong knowledge of Open Clinic distribution and proof of a module(s) that works
- Being a Community Open Clinic Senior Developer will be a strong asset
- The applicant should be able to develop and integrate Open Clinic modules.

Education: At least a Master's degree in Computer Science, Statistics, Public Health or related discipline. Having PhD in Computer Science, Statistics, Public Health or related discipline will be an added advantage.
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<tr><td>Electronic Medical Records Use, Management & Health Information Systems</td><td>1</td><td>Applicant should hold at least a Master's degree in Health Informatics, Computer Sciences, Public Health, or related field with minimum of 3 years in conducting training in EMR implementation. Having PhD is an added value.</td></tr>
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IV. ADVANCED PROFESSIONAL TRAINING IN REHABILITATION AND MOBILITY SCIENCES.

Modules	Weeks	Minimum Qualifications of the Trainer
Wheelchair service provision basic& intermediate training	2	Applicant should hold at least a Master's degree in rehabilitation fields such as Physiotherapy, Prosthetic and orthotic and Occupational therapy or Bachelors in the above fields with minimum of 3 years of working experience and the candidate should hold an advanced training on wheelchair service by a recognized institution (International Society for Wheelchair Professionals (ISWP)
Advanced stroke rehabilitation training	2	Applicant should hold at least a Master's degree in rehabilitation fields such as Physiotherapy neurology clinical specialist, and Occupational therapy neurology clinical specialist or Bachelors in the above fields with minimum of 5 years of working experience and the candidate should hold a recognized certification in stroke rehabilitation training by a recognized institution.
Advanced spinal cord injury rehabilitation training	2	Applicant should hold at least a Master's degree in rehabilitation fields such as Physiotherapy neurology clinical specialist, Prosthetic and orthotic and Occupational therapy neurology clinical specialist or Bachelors in the above fields with minimum of 5 years of working experience in neurological rehabilitation and the candidate should hold a recognized certification in spinal cord injury rehabilitation training by a recognized institution.
Advanced Interdisciplinary rehabilitation of cerebral palsy training	2	Applicant should hold at least a Master's degree in rehabilitation fields such as Physiotherapy Paediatric clinical specialist, and Occupational therapy Paediatric clinical specialist or Bachelors in the above fields with minimum of 5 years of working experience in paediatric rehabilitation and the candidate should hold a recognized certification in paediatric rehabilitation training by a recognized institution (Bobath/NDT certified therapist).
Advanced Clubfoot management training	2	Applicant should hold at least a Master's degree in rehabilitation fields such as Physiotherapy Orthopaedics, and Occupational therapy Orthopaedics specialist or Bachelors in the above fields with minimum of 5 years of working experience in paediatric Orthopaedics Rehabilitation and the candidate should hold a recognized certification in Ponseti method of clubfoot management.

Advanced hand rehabilitation training	2	Applicant should hold at least a Master's degree in rehabilitation fields such as Occupational therapy hand therapist specialist and Physiotherapy hand therapist or Bachelors in the above fields with minimum of 5 years of working experience in Orthopaedics hand Rehabilitation.
Housing and environmental adaptations and modifications training	2	Applicant should hold at least a Master's degree in rehabilitation fields such as Occupational therapy specialized in the area of housing adaptation and design or accessibility and inclusive design or physiotherapy specialist in ergonomics and safety health, or Bachelors in the above fields with minimum of 5 years of working experience.
Management of sensory integration disorders training	2	Applicant should hold at least a Master's degree in rehabilitation fields such as Occupational therapy specialized in advanced sensory integration disorders management, Physiotherapy Paediatric clinical specialist, or Bachelors in the above fields with minimum of 5 years of working experience.
Advanced Prosthetic socket design training	2 weeks Each	Applicant should hold at least a Master's degree in Prosthetic and orthotic or Bachelors in the above fields with minimum of 5 years of working experience and the candidate should be certified by a recognized institution in the following areas: ➤ Ischial containment socket design, ➤ Marlo anatomical socket (mas) design, ➤ Northwestern university flexible sub-ischium vacuum socket, ➤ Total surface bearing socket (harmony system), ➤ Body powered upper limb prosthesis, ➤ Upper limb myoelectric prosthesis
Advanced Orthotics design training	2	Applicant should hold at least a Master's degree in Prosthetic and orthotic or Bachelors in the above fields with minimum of 5 years of working experience and the candidate should be certified by a recognized institution in the following areas: Dynamic upper limb orthotic Laminated KAFO Orthotic management of Adolescent Idiopathic Scoliosis (AIS)

Advanced motion analysis (Gait) training	2	Applicant should hold at least a Master's degree in Physiotherapy specialized in Biomechanics or Prosthetic and orthotic and/or Bachelors in the above fields with minimum of 5 years of working experience and the candidate should at least be certified in gait and human movement analysis by a recognized institution.

The selection will be based on the detailed Terms of Reference (available at www.ur.ac.rw) and in accordance with the Individual Consultant Selection method set out in with the Policies of the Bank detailed in the *Rules and Procedures for the Use of Consultants.*

Application and Submission

Interested and suitable qualified candidates should submit their Expression of Interest including *CVs, Credentials and Proofs of currently belonging in a Reputable University.* All applications should be submitted to the following addresses:

Attn: Dr. Celestin TWIZERE (Director of CEBE)
E-mail: cebeprojectprocurement@gmail.com and celestintwizere@gmail.com copy to cebeprojectcoordinator@gmail.com

The deadline for submission of expression of interest is **30/01/2020**, at 05:00 pm Kigali time.

Note:

- A consultant can apply to many modules/training but not more than **3 in all fields**.

- For the shortlisted consultants during the previous call, only those who like to update their CVs can send the updated ones.

Sincerely,

Françoise Kayitare Tengera
Deputy Vice Chancellor for Finance