

Memorandum of Understanding

between

**The Regents of the University of California, as Management and Operating
Contractor for
Lawrence Berkeley National Laboratory**

and

Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Germany

**Concerning Collaboration in the Field of
Metrology for Synchrotron Radiation Optics**

This Memorandum of Understanding (MOU) is between The Regents of the University of California (The Regents), in its capacity as the manager and operator of the Lawrence Berkeley National Laboratory (LBNL) and the Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Germany (HZB).

LBNL is a U.S. Department of Energy (DOE) National Laboratory managed and operated by The Regents pursuant to DOE Contract No. DE-AC02-05CH11231. HZB is a legally independent member of the Helmholtz Association (Helmholtz-Gemeinschaft Deutscher Forschungszentren e.V., HGF). HZB is funded by the Federal Government of Germany and the State of Berlin.

The Regents and HZB are collectively herein referred to as the “Participants” or individually as a “Participant.”

1. Objective

The Participants intend to explore potential future collaboration in the field of metrology for synchrotron radiation optics.

2. Proposed Areas of Collaboration

The Participants intend to collaborate in one or more of the following areas:

- A. Development of a new NOM (Nanometer Optical Component Measuring Machine)-like slope measuring profiler
- B. Development of a new 2d-camera-based Long Trace Profiler (LTP)-sensor
- C. Development of performance characterizing methods for slope measuring profiler

The scope of the above activities and cooperation may be changed or extended to other areas by mutual written consent of the Participants.

3. Proposed Forms of Collaboration

The Participants expect to collaborate through mutual visits, the exchange of publicly available information, exchanges of researchers and experts, training and planning for potential future joint research, with any future collaborative research to be undertaken only pursuant to an appropriate written agreement therefor.

4. Proposed Mechanisms of Collaboration

- a. To administer the implementation of this MOU, each Participant should designate one or more principal coordinators to be in charge of the collaboration, through whom all requests and plans of that Participant should be made.
- b. The principal coordinators may hold meetings when necessary to discuss matters related to collaboration under this MOU.
- c. The principal coordinator for The Regents is Roger Falcone, or, in the alternative, Valeriy Yashchuk. The principal coordinator for HZB is Frank Siewert, or, in the alternative, Grzegorz Gwalt.

5. Commencement, Modification and Discontinuation

- a. Cooperative activities under this MOU may commence upon signature of the Participants and continue for a three (3) year period, unless discontinued in accordance with paragraph b. of this Section, or extended in accordance with paragraph c. of this Section.
- b. The Participants may discontinue this MOU at any time by mutual written consent. Alternatively, a Participant that wishes to discontinue its participation in this MOU should endeavor to provide at least thirty (30) days prior written notice to the other Participant.
- c. This MOU may be modified or extended for additional periods, by mutual written consent of the Participants.

6. Exchange of Information

The Participants do not anticipate the exchange of business-confidential information or the creation of intellectual property. If the Participants determine that a particular activity may lead to the exchange of business-confidential information or the creation of intellectual property, they should consult with each other and enter into an appropriate written agreement therefor.

7. General Provisions

- a. This MOU does not create any legally binding obligations between the Participants.
- b. Each Participant should conduct the activities contemplated by this MOU in accordance with all applicable laws, regulations and other requirements to which it is subject, including by way of illustration and not by way of limitation: export control laws; environmental, health and

safety laws and regulations; and international agreements to which its Government is party.

- c. The conduct of cooperative activities contemplated by this MOU is subject to the availability of funding, personnel, and other resources.
- d. Each Participant is to be responsible for the costs it incurs in participating in cooperative activities under this MOU.

Signed in duplicate.

FOR THE REGENTS OF THE
UNIVERSITY OF CALIFORNIA:

By: Michael Witherell

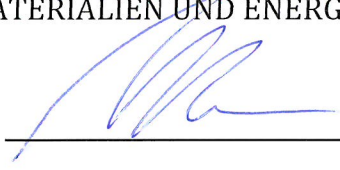
Name: Michael Witherell

Title: Director, Lawrence Berkeley
National Laboratory

Date: 12/2/2016

Place: Berkeley, CA, USA

FOR HELMHOLTZ-ZENTRUM BERLIN
FÜR MATERIALIEN UND ENERGIE
GMBH:

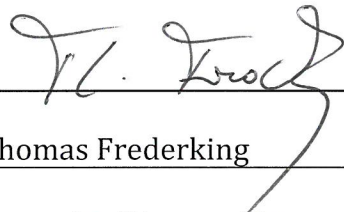
By: 

Name: Prof. Dr. Anke Kaysser-Pyzalla

Title: Scientific Director/Chief
Executive

Date: Dec 20, 2016

Place: Berlin

By: 

Name: Thomas Frederking

Title: Executive Director Finance
& Administration

Date: Dec 20, 2016

Place: Berlin