

**2012-2013 LEHIGH UNIVERSITY FACULTY GRANTS FOR INTERNATIONAL
CONNECTIONS
MARCH 12, 2012**

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SUMMARY

Host: Prof. Franco Bontempi
Department of Structural and Geotechnical Engineering
Sapienza University of Rome, Italy

Time of Visit: June/July 2013

Purpose of Visit: To meet with Prof. Bontempi and his research team to establish international collaboration between Lehigh University and Sapienza University of Rome on the topic of blast resistance and structural integrity of structures.

Estimated Total Cost: Total cost for air, lodging and food \$5756

PROFESSIONAL GOALS OF VISIT

The goal of the visit is to develop research collaboration with Professor Franco Bontempi and his research group at Sapienza University of Rome. A focus of my research has been on the design of buildings against blast pressures and progressive collapse of structures due to intentional and accidental detonations. As part of this effort I have been able to develop research contacts with the Army, Air Force, Navy, Explosive Safety Board, and have been able to secure funding from the National Science Foundation. I have had limited opportunity to expand these efforts outside of the United States. Prof. Bontempi is well vested in this area of research and a visit with him will foster future collaboration activities between our groups. Furthermore, the Ph.D. program in Italy allows for students to study abroad as part of their research experience. The visit will allow for further development of an exchange program between our Universities.

Sapienza University of Rome was founded in 1303 by Pope Boniface VIII, it is the first University in Rome and the largest University in Europe: a city within a city, with over 700 years of history, 145,000 students, over 4,500 professors and almost 5,000 people are administrative and technical staff. Sapienza has a wide academic offer which includes over 300 degree programs and 250 one or two year professional courses. Franco Bontempi is Full Professor at the School of Engineering of Sapienza since 2000 and leader of the group of Structural Analysis and Design. He has been educated as Civil Engineer and earned his Ph.D. at Politecnico di Milano, Italy and has both experience in the professional and academy activities, being consultant for bridges and high-rise structures analysis and design and author of ca. 180 scientific papers on all aspects of analysis and design of structures, safety and reliability, computational mechanics, nonlinear mechanics, stochastic mechanics, structural dynamics, identification, optimization and control. All of these areas of research are in line with my area of interest and expertise.

EXPECTED SHORT-TERM OUTCOMES

The short term outcomes include the identification of areas of research collaboration and formal development of exchange opportunities.

EXPECTED LONG-TERM OUTCOMES

Over the long term it is expected that the visit will foster international research collaboration, potential sabbatical opportunities, and faculty and student exchange programs.

NATURE OF INTERACTION

The interaction will initiate with a visits from Prof. Bontempi's research group in 2012. These will include a visit from Pierluigi Olmati a Ph.D. student from Sapienza University. As part of his visit he will work with Prof. Naito to assist in ongoing US research efforts on impact and blast related research. In addition he will provide a short seminar to US students on new methods under development to design for progressive collapse of structures. During the Summer of 2012 Dr. Gkoumas a research associate of Prof. Bontempi will visit me at Lehigh. As part of his visit he will provide a short seminar and initiate discussion on the areas of collaboration between our groups.

The connection will culminate in a 2-week visit to Sapienza University in Rome. As part of my visit a short seminar will be provided and research collaboration will be finalized.

PRE-PLANNING PREPARATION

The effort is being planned with the assistance of a visiting researcher Pierluigi Olmati from Rome and has been discussed at length with Prof. Bontempi.

EXPECTED FOLLOW-UP

I will share the knowledge of the research experience with students at Lehigh University. Specifically the knowledge gained can be shared in my graduate course on Blast Resistant Design of Structures. The research effort should lead to Lehigh – Sapienza University publications as the work we initiate comes to fruition.

PROPOSED BUDGET AND SCHEDULE

The proposed budget includes the cost for the visit to Italy over a 2 week period. The cost for hotel and food are included as well as the cost for air travel. The estimates are based on worse-case scenarios. We are attempting to secure lower cost lodging on campus however due to the distant time horizon of the visit (Summer 2013) availability is uncertain.

Item	Rate	Qty.	Subtotal
Flight: EWR to Rome Fiumicino (FCO)	\$ 1,500	1	\$ 1,500
Meals and Incidental Expenses – Based on Dept. of State Per Diem Rate	\$154	14	\$ 2,156
Lodging Based on 1/3 DoS Lodging Rate	\$ 150	14	\$ 2,100
			Total \$ 5,756



SAPIENZA
UNIVERSITÀ DI ROMA

Rome, 09 March 2012

Object: Letter of Invitation for

Prof. Clay J. Naito, Ph.D., P.E.

Associate Professor and Associate Chair

Department of Civil and Environmental Engineering Lehigh University

117 ATLSS Drive, IMBT Labs

Bethlehem, PA 18015 Lehigh University.

Dear Prof. Clay Naito:

I am pleased to invite you to the Sapienza University of Rome, Department of Civil and Geotechnical Engineering for a two week period in the Summer of 2013 to develop research collaboration between our two research groups.

Your experience and research activities in the design of buildings against blast pressures and progressive collapse of structures due to intentional and accidental detonations are in line with my research group activity. This visit will allow us to develop areas of collaboration between our groups and potentially between our Departments and Universities. This will also further develop the collaboration through visits of both Pierluigi Olmati a Ph.D. student and Dr. Konstantinos Gkoumas from my group.

As part of your visit we will organize a set of meetings for discussing how develop a feasible common project of research inherent with both the protective structures against blast load, and progressive collapse of structures. It is also appreciated if you could provide an open seminar about



your research activities follow by a discussion, for both our Ph.D. students and research associates.

I truly hope your Lehigh International Collaboration proposal is successful and that you have the opportunity to visit my research group and develop future collaboration in the coming years.

Please feel free to contact me if you have any questions or need further assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read 'F. Bontempi'.

Dr.-Ing. Franco Bontempi, Ph.D., P.E.,
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Department of Structural and Geotechnical Engineering,
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