Borse di Studio in Nord America per Giovani Ingegneri
Bando CNI---ISSNAF 2015

Il Consiglio Nazionale Ingegneri, la Scuola Superiore di Formazione Professionale per l'Ingegneria, gli Ordini Territoriali, d'intesa con la Fondazione ISSNAF (Italian Scientists and Scholars in North America Foundation), invitano i giovani ingegneri italiani iscritti all'Ordine a presentare domanda per l'assegnazione di 11 (undici) borse di studio di formazione e aggiornamento in Nord America.

Il programma, alla terza edizione, si inserisce nell'ambito del Protocollo d'Intesa ISSNAF --- CNI stipulato nel 2013 ed ha l'obiettivo di facilitare il contatto e l'interazione tra gli ingegneri italiani e il mondo della ricerca, dell'industria e delle professioni del Nord---America, al fine di creare opportunità formative e di sviluppo professionale.

Il bando è aperto a tutti gli ingegneri italiani nati dopo il 1° gennaio 1980 che sono iscritti all'Ordine, abbiano un'ottima conoscenza della lingua inglese e rispondano ai requisiti specifici richiesti dal centro di destinazione.

Ciascuna borsa include il rimborso dell'assicurazione medica, il viaggio aereo (Italia/centro di destinazione) in classe economica, i costi d'iscrizione/corso, e l'alloggio. Rimangono a carico del borsista tutti gli altri costi, nonché le procedure e le spese per il Visto qualora richiesto dal centro ospitante.

Le borse, hanno una durata di 8 settimane ad eccezione delle borse Mind The Bridge, che hanno una durata di 3 settimane. Le date di svolgimento delle borse, che dovranno comunque avere inizio entro il 01 giugno 2016, verranno decise di comune accordo tra il borsista e il centro di destinazione dopo la selezione.

La lista dei centri di destinazione è allegata al presente bando ed è inoltre consultabile online alla pagina www.issnaf.org/internships.html

Il numero di borse assegnate potrà essere aumentato sulla base di nuove disponibilità economiche, individuate anche grazie finanziamento/cofinanziamento con aziende e Ordini Territoriali. Al fine di aumentare il numero di borse disponibili, i singoli Ordine territoriali potranno partecipare al presente bando finanziando/cofinanziando Borse a favore di propri iscritti risultati idonei. Il numero di borse assegnate senza cofinanziamento non sarà inferiore a 3 unità.

MODALITA' DI PARTECIPAZIONE E SELEZIONE

- Ogni candidato dovrà compilare la domanda di partecipazione esclusivamente online all'indirizzo http://www.issnaf.org/cni-issnaf-internships-2015-application-form.html secondo il formulario allegato al presente bando
- Domande inviate via email o via posta non saranno accettate
- Domande inviate dopo la data di scadenza non saranno accettate.
- Ogni candidato può inoltrare domanda per un massimo di tre centri
- Le candidature valide verranno esaminate dai tutor di destinazione i quali individueranno una rosa di finalisti Idonei. I tutor baseranno la propria decisione sulle domande d'ammissione e potranno contattare i candidati per un'intervista telefonica o via Skype
- La valutazione dei tutor è indipendente ed insindacabile
- Dalla rosa di finalisti ricevuta dai tutor, la commissione congiunta CNI---ISSNAF selezionerà i vincitori delle borse, al fine di garantire pari opportunità ed equa distribuzione geografica delle borse
- Le decisioni della commissione CNI---ISSNAF sono definitive

TERMINI
- Le domande vanno presentate entro e non oltre il 20 luglio 2015
- I nomi dei vincitori saranno individuati entro il 15 settembre 2015
- I vincitori saranno avvisati con formale comunicazione, con obbligo di risposta con accettazione formale entro 8 gg dalla ricezione
- La proclamazione ufficiale dei vincitori sarà fatta il giorno 2 ottobre a Venezia all'interno dei lavori del 60° Congresso Nazionale Ordini Ingegneri d'Italia

NOTE
- Per quanto riguarda l'alloggio, a discrezione di ISSNAF, potrà essere assicurato in uno dei seguenti modi: messa a disposizione di un alloggio per il periodo di permanenza negli USA (da un giorno prima dell'inizio a un giorno dopo la fine del tirocinio) o in alternativa un contributo fino a $4,000 erogato direttamente al vincitore oppure all'affittuario (su presentazione di ricevuta di prenotazione).
- Per quanto riguarda la polizza sanitaria: a carico dei partecipanti con rimborso del premio pagato per massimo 150 $ (su presentazione della ricevuta di pagamento).

LISTA TUTOR E CENTRI OSPITANTI

HOST	TUTOR	PROJECT DESCRIPTION	LOCATION	REQUIREMENTS	WEBSITE
Fermilab - Muon Accelerator Department of the Accelerator Physics Center	Katsuya Yonehara	Design of a gas-filled RF cavity for large-acceptance muon beam ionization cooling	Batavia, IL	electrical or electronic engineer	http://www.fnal.gov
Fermilab - Experimental Beam Physics Department of the Accelerator Physics Center	Philippe Piot	Construction and commissioning of a Titanium-sapphire multi-pass amplifier of a laser source, for studies of laser-induced particle beams acceleration	Batavia, IL	Photonics-engineering or/and Electrical-engineering	http://www.fnal.gov
Fermilab, Beam Instrumentation Department of the Accelerator Division	Vic Scarpine, Randy Thurman-Keup, Jayakar Thangaraj	Construction of a ultra-high frequency spectrometer based on Cesium Iodide (CsI) to measure the Tera-Hz spectrum of a pico-second-electron beam	Batavia, IL	mechanical/optical engineer	http://www.fnal.gov
FERMILAB, Mechanical Support Department of the Accelerator Division	Linda Valerio	Ceramic beam tube resistive coating R&D	Batavia, IL	Mechanical Engineer and/ or a Material Scientist	http://www.fnal.gov
fermilab, Accelerator Physics Center	Jayakar Thangaraj	Simulation of the electron beam transport through the linac of the Advanced Superconducting Test accelerator ASTA of the Accelerator Physics Center	Batavia, IL	computing engineer	http://www.fnal.gov
UTSA College of Architecture, Construction and Planning	Angela Lombardi	natural, artificial stone and earthen material conservation, masonry analysis of historic buildings as well as built heritage documentation	San Antonio, TX		http://cacp.utsa.edu/
Clemson University	Simona Onori	The project consists in conducting experiments on Li-ion battery celle to characterize their electrical and thermal behavior. Data are analyzed with Matlab/Simulink and mathematical models will be designed to predict battery behavior in Electric Vehicle applications	Clemson, SC	Electrical engineering background. Knowledge of Matlab/Simulink is preferred (not required)	http://myweb.clemson.edu/
University of Miami, College of Engineering	Francesco Travascio	Computational modeling of Musculoskeletal Biomechanics	Miami, FL	Experience in finite element modeling Continuum mechanics background	http://www.ie.miami.edu/
Ryerson University	Umberto Berardi	high-rise building design zero energy buildings high performance buildings advanced building envelopes	Toronto, ON	some building physic knowledge would be appreciated a passion for modern construction is an asset	http://www.ryerson.ca/
Rice University, Quantum Institute	Cecilia Clementi	computational studies of protein dynamics, the interns will learn how to simulate protein dynamics in a computer and analyze the simulation to connect the results with experimental data	Houston, TX		http://chemistry.rice.edu/

Institution	Contact	Project	Location	Requirements	URL
University of South Carolina, Dept. of Civil Engineering	Fabio Matta	1. Project: the goal is to contribute to understanding the feasibility of designing dwellings that are extremely affordable and sustainable but also resistant to extreme loads (e.g., wind, earthquakes). The internship will entail an analytical and/or experimental investigation on the structural performance of a prototype unfired earth masonry system (affordable and with low carbon footprint) subjected to natural hazard loads. Field: structural materials and mechanics 2. Project: the goal is to contribute to understanding whether it is possible to radically enhance strength, stiffness and toughness, and reduce porosity, of cement composites by incorporating a minimal amount of carbon nanoreinforcements. The internship will entail an analytical and/or experimental investigation on selected physico-mechanical properties of prototype cement composites. Prospective uses include, but are not limited to, the long-term safe storage of sensitive waste. Field: structural materials and mechanics	Columbia, SC	Curiosity, motivation, good time-management skills, open to working in a team (necessary). Currently studying civil or mechanical engineering (necessary).	http://www.ce.sc.edu/
Fermilab - Computing Division	Gabriele Garzoglio / Steven Timm	Computing Eng. - Development of advanced distributed GRID/CLOUD computing	Batavia, IL	computing engineer	http://www.fnal.gov
Fermilab - Computing Division	Gustavo Cancelo	Development of low-noise electronics for astrophysics experiments	Batavia, IL	Electronic Engineer	http://www.fnal.gov
Fermilab - Scientific Data Processing Department of the Computing Division.	Marc Mengel / Andrew Norman	Creating and integrating new methods for accessing and delivering large data sets for distributed physics analysis	Batavia, IL	computing engineer	http://www.fnal.gov
Fermilab - Scientific Data Processing Department of the Computing Division.	David Mason / Oliver Gutsche	Work in the team of software professionals of the Fermilab Computing Center of the CMS experiment at the LHC of CERN, to develop distributed monitoring of on-going data analysis in the world-wide grid and to improve the processing infrastructures of the Center	Batavia, IL	computing engineer	http://www.fnal.gov
JPL	Cinzia Zuffada	Analysis of science data or simulations; GPS reflectometry	Pasadena, CA	mathematical tools for analysis; familiarity with GPS processing for Earth remote sensing	http://scienceandtechnology.jpl.nasa.gov

NASA Goddard Space Flight Center	Simone Lolli	Assessing cloud and aerosol radiative forcing properties by lidar means	Greenbelt, MD	background in atmospheric physics, or related field. Matlab or IDL algorithm coding	http://science.gsfc.nasa.gov
University of Texas	Andrea Alù	Metamaterial Cloacking	Austin, TX	Electromagnetic wave propagation, radio-frequency background	http://users.ece.utexas.edu
Northeastern University	Tommaso Melodia	Technology for intra-body networks of biomedical implants	Boston, MA	electrical engineering, computer engineering, or computer science	http://www.ece.neu.edu
Carnegie Mellon University	Bruno Sinopoli	Design of Indoor positioning systems: Embedded systems, Internet of things, -Adaptive video streaming over internet: networking, optimization, control -Control of Unmanned Aerial Vehicles	Pittsburgh, PA	Good mathematical skills, -Embedded system design skills, e.g. programming	http://users.ece.cmu.edu
CalTech	Pietro Perona	Visual categorization (Computer Vision and Machine Learning)	Pasadena, CA	Laurea Magistrale o equivalente in elettronica/informatica. Esperto di programmazione in Python/Matlab/C++	http://eas.caltech.edu
"Department of Engineering USC"	Paul Bogdan	1) Computer Engineering - Design Methodologies for Networks-on-Chip 2) Systems Biology - Modeling of Lung Development 3) Bacteria Swarms for Drug Delivery 4) Renewable Energy Generation - Large Scale Optimization and Control 5) Molecular Communication	Los Angeles	Applied Mathematics Optimization (Discrete and Continuous variable) Distributed Control Mean Field Games - Control Statistical Physics Machine Learning	http://ee.usc.edu/
Fermilab - Electrical Engineering Department of the Particle Physics division	Gregory Deptuch / Ron Lipton	) Development ant testing of CMS sensors for the tracker and calorimeter fabricated on 8'' silicon wafers	Batavia, IL	electronic engineer	http://www.fnal.gov
Trojan Technologies and Western University	Domenico Santoro	Developing, testing and validating new treatment technologies for water and wastewater treatment. The specific project will be developed in collaboration with the inter around the research initiative actives at the time of the application. General topics are: advanced disinfection, process modeling, energy recovery from biosolids, flow visualization	London, Ontario	Degree in Environmental or Chemical Engineering with solid knowledge of water and wastewater treatment processes	http://www.trojantechnologies.com

"Lawrence Berkeley National Laboratory Joint Center for Artificial Photosynthesis"	Francesca Maria Toma	The Joint Center for Artificial Photosynthesis (JCAP) is a Solar Fuels Innovation Hub established by the Department of Energy in 2010 and funded through FY 2020. It is led by Caltech and has physical locations on the campuses of the two major partners, Caltech and Lawrence Berkeley National Laboratory (LBNL http://solarfuelshub.org). The intern will focus on materials synthesis and characterization for CO_2 reduction, and will perform her/his work at the LBNL location.	Berkeley	This position requires chemistry, physics, and materials knowledge, and the intern is supposed to perform experimental work in a chemistry lab in a highly interdisciplinary and collaborative environment. A degree in Chemical, Materials, Physical, or Biomedical Engineering will be a plus.	http://solarfuelshub.org/
NYU Polytechnic Institute	Maurizio Porfiri	The project will be a mechatronics based project related to the field of biomimetic robotics, robotics for animal-robot interaction, and environmental monitoring. The individual will work with a team consisting of engineers and biologists to assist in on-going projects	Brooklyn, NY	Matlab, C++, Solidworks, (Knowledge in app development a plus)	http://faculty.poly.edu
"University of California, Riverside Mechanical Engineering"	Elisa Franco	Project 1: Characterization of self-assembly of DNA and RNA nanostructures inside vesicles and droplets, for new material development and drug delivery applications. This project is experimental and will require combination of techniques including optical and fluorescence microscopy and AFM. The candidate should have a degree in bioengineering or biology and be familiar with wet lab techniques and image processing methods.

Project 2: Autonomous navigation of quadrotors for surveillance, recovery and environmental monitoring. This project will focus on the development of algorithms for control and data collection with minimal quadrotor robots, and will include field tests. The candidate should have a degree in mechanical, electrical or aerospace engineering, and be familiar with control and systems theory. | Riverside, CA | Laurea specialistica in biochemistry/biology/nanotechnology. | http://www.engr.ucr.edu/ |
| "University of Southern California Department of Biomedical | Natasha Lepore | We are an image processing laboratory with a focus on normal and abnormal | Los Angeles | We have two types of projects, some that are more programming based, and | http://natashalepore.org/ |

Engineering		brain development. The projects that the student(s) would be involved in pertain to studying brain anatomy in fetuses, newborns and in children with various brain disorders, using MRI. Depending on the student's interest and level of experience, they could get involved in more technical or more biological aspects of the project		others focus more on understanding brain anatomy & function. For the programming projects, programming skills in one of the main languages is required. For the biology projects, an understanding of brain anatomy is a plus, but not absolutely necessary	
"Department of Medical Physics Cross Cancer Institute and University of Alberta"	Nicola De Zanche	Engineering for radiation therapy guided by magnetic resonance imaging: www.linac-mr.ca The specific projects will be: 1. mechanical design of gantry and patient support components 2. electronic control system design and construction	Edmonton, Alberta	academic/professional background: bachelor's or 5-year Italian laurea specialistica in electrical/electronics engineering or mechanical engineering, written and spoken language in the lab is English	http://www.linac-mr.ca
"INRS EMT, Univ. du Quebec The NanoFemtoLab"	Federico Rosei	multifunctional materials, optoelectronic devices, solar cells, advanced materials, surfaces and interfaces	Montreal, Quebec	ingegneria elettronica, dispositivi fotonici, ingegneria dei materiali	http://nanofemtolab.qc.ca/
Berkeley University	Massimiliano Fratoni	nuclear engineering, the intern will support our effort on the design and analysis of advanced nuclear reactors either by improving modeling capabilities or developing specific designs	Berkeley, CA	some basic programming skills (C++, python) are desirable	https://www.nuc.berkeley.edu/
Fermilab - Mu2e Group, Particle Physics Division	Fabio Happacher	Development of the front-end electronics for the calorimeter of the Mu2e experiment	Batavia, IL	electronic engineer	http://www.fnal.gov
Fermilab - Mu2e Group, Particle Physics Division	Matteo Martini	Development of the mechanical structure for the calorimeter of the Mu2e experiment	Batavia, IL	mechanical engineer	http://www.fnal.gov
Lawrence Livermore National Laboratory, Defense and Space Dept	Tiziana Bond	1.Plasmonics and photonics for energy harvesting – 2. Thermoelectric materials 3. Surface Enhanced Raman Spectroscopy	San Francisco, CA	1. Nano and Micro fabrications – Optical design - 2. Material design - 3. Spectroscopy and optical characterizations	https://www.llnl.gov

INRS EMT, Univ. du Quebec, Ultrafast Optical Processing Group	Roberto Morandotti	Our group (UOP) is currently investigating innovative approaches in photonics based on various free space and integrated technologies. Our focus is in the following applications: (i) design and realization of novel integrated devices for all-optical signal processing; (ii) study of fundamental light-matter interaction properties in micro and nano guides; (iii) investigation of novel electro-optic, magneto-optic and nonlinear materials for optoelectronics and quantum optics applications, i.e. quantum communications/computing (iv) realization of extreme terahertz sources for THz imaging and nonlinear THz optics. The work we are conducting (reported on in high impact journals like Physical Review Letters, the Nature series, - Nature, Nature Photonics, Nature Physics, Nature Communication, etc. - and recognized with several prestigious awards) involves both theory and experimental work, and has several industrial links. In fact, the group has recently been awarded with significant funding to further enhance its already outstanding experimental facilities.	Montreal, Quebec	a driven student looking to work within a productive research - university education should be in Physics,Engineering Physics, Electrical Engineering, Telecommunications or related fields.	http://nlo.uop.ca/
Fermilab - Detector Development and Fabrication n Department of the Particle Physics Division	Anna Pla-Dalmau	Development and production of materials for applications in improved scintillation detection	Batavia, IL	chemical or materials engineer	http://www.fnal.gov
Fermilab - Electrical Engineering Department of the Particle Physics Division	Paul Rubinov	CMS test beam for the High Granularity Calorimeter	Batavia, IL	electronic engineer	http://www.fnal.gov
Fermilab, Electrical Engineering Department of the Particle Physics Division	Sten Hansen	Development of warm electronics for the CDMS detectors	Batavia, IL	electronic engineer	http://www.fnal.gov
Fermilab, Electrical Engineering Department of the Particle Physics division	Farah Fahim	Testing of Application Specific Integrated Circuits (ASIC) bonded to high sensitivity single photon detection sensors	Batavia, IL	electronic engineer	http://www.fnal.gov
Fermilab, Mechanical Engineering Department of the Particle Physics Division	David Montanari	Design of the cooling system of the upgraded cryogenic distillation column to separate Argon form an Argon/Nitrogen mixture / Design of new gas distribution system for the upgraded cryogenic distillation column at PAB to separate Argon from an Argon/Nitrogen mixture	Batavia, IL	cryogenic or thermal engineer / mechanical engineer	http://www.fnal.gov
Mind the Bridge Start-up school	Marco Marinucci		San Francisco		http://school.mindthebridge.org/

University of Washington, construction management, college of built environments	Giovanni Migliaccio	(1) construction project delivery and contracting (gestione di appalti e contratti pubblici e privati); (2) building asset and facility management, (3) interdisciplinary studies on human performance and ergonomics as a applied to construction workforce.	Seattle, WA	the interns must be currently enrolled in an Italian university ; Topic 1: excellent written English, knowledge of public work contracting. Topic 2: architectural engineering background; facility management. Topic 3) industrial engineering, human factors, ergonomics	https://www.mendeley.com
Fermilab - Magnet System Department of the Technical Division	Emanuela Barzi	Development of strain-resistant Nb3Sn superconducting strand and cables for applications in high field magnets, and electro-mechanical modeling of composite and anisotropic materials in the plastic regime	Batavia, IL	Mechanical Engineer	http://www.fnal.gov
Fermilab, Magnet System Department of the Technical Division	Rodger Bossert	Evaluation of the mechanical accuracy achievable in the muon transport system of the Mu2e experiment	Batavia, IL	mechanical engineer	http://www.fnal.gov
Fermilab, Magnet System Department of the Technical Division	Mauricio Lopes	Simulation and construction of a prototype Nb3Sn superconducting helical solenoid for the Mu2e experiment	Batavia, IL	mechanical engineer	http://www.fnal.gov
Fermilab, Magnet System Department of the Technical Division	Luciano Elementi	Electrical modeling of toroid magnet coils and measurement and analysis of performances of dipole magnet prototypes for the Mu2e experiment	Batavia, IL	Electronic Engineer	http://www.fnal.gov
NASA Goddard Space Flight Center	Eleonora Troja	he aim of this internship is to develop an efficient pipeline for automatic transients detection and classification over large field of view optical images. The main goal is to identify the best candidates to be selected for further observations, and ultimately to discover the first electromagnetic counterpart of a GW source.	Greenbelt, MD	good knowledge of UNIX operating system, previous experience with Python is preferred but not required	http://science.gsfc.nasa.gov