International Funding for LSAMP Faculty Mentors, the US/France/Belgium iREU Program, and a new “Research Abroad” European Master’s Degree

Randy Duran
Louisiana State University

CHE 1263336

With:
David Spivak, Gloria Thomas, LSU
Oleg Melynk, Lille
Wais Hosseini, Strasbourg
Neil Garg, UCLA
Olaseni Sode, Univ Chicago and Toulouse
Gwenaël Rapenne, Toulouse
Mamta Rawat, Cal State Fresno
Guy Royal, Eric Saint Aman, Sylvie Chardon, Marie-Noëlle Collomb, Grenoble
Dozens of REU students and many others
About Louisiana State University

- The comprehensive land-grant university of the state, ~30,000 students
- Strong materials/bioanalytical/health science
- 1 hour away from New Orleans
- Strong French-Cajun tradition in culture and food

Grad school?
Dr Doug Gilman
sdgilman@lsu.edu
About “Dr. D.”

- Gordon A Cain Chair – *what is an endowed chair?*

- Office of Research and Economic Development
  - Undergraduate research
  - International
  - STEM Literacy

- NIH R01 $1.7M – seeking postdoc/GS “Spatiotemporal Modulation of Osteogenesis in a 3-D Stromal/Stem Cell Model”
  
  Optical tweezing/laser capture microdissection
REU - more than $5000 per student
Mentor (faculty) international collaboration awards of $5000
EU funding to help 24 faculty come to your campus
Earning the equivalence of a European Masters degree
Challenge to REU participants “get enough accomplished to merit co-authorship”

No application (!!!) nomination only

How? .... And why?
Upsilon Research, a requirement for Grad/Med school, Industry Research Opportunities

Let's compare three extremes

Rec letter based on a single class:
- Grades
- Major/minor/courses
- Ranking in class
- Performance

Enhances Academic performance

Rec letter based on research in the US:
- Publications/results
- Techniques/skills
- Best in “xx” years
- Works hard
- Reliable
- Adaptable
- Creative
- Good communicator
- Personality
- Outside skills
- Dedication

Place in independent research abroad:
- Clarify skills a mentee needs to develop
- Identify external factors influencing research abroad

Reveal Talent most appropriate for each research opportunity

Grades
Major/minor/courses
Ranking in class
Performance

Publications/results
Techniques/skills
Best in “xx” years
Works hard
Reliable
Adaptable
Creative
Good communicator
Personality
Outside skills
Dedication

Clarify skills a mentee needs to develop

Identify external factors influencing research abroad

Reveal Talent most appropriate for each research opportunity
Message: Early research is a necessity and an opportunity, enable it

<table>
<thead>
<tr>
<th>Advocate research benefits</th>
<th>More than 2 semesters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reference letter skills</td>
</tr>
<tr>
<td>Aim Students High</td>
<td>Talent</td>
</tr>
<tr>
<td></td>
<td>Promote off campus/Intl</td>
</tr>
<tr>
<td></td>
<td>Apply for JSPS, DAAD and NSF GRF</td>
</tr>
<tr>
<td>Document success</td>
<td>Present/publish</td>
</tr>
<tr>
<td></td>
<td>Academic Credit/Awards</td>
</tr>
<tr>
<td></td>
<td>Life-changing events</td>
</tr>
<tr>
<td>Cultivate respect, sophistication And humility</td>
<td>Teach them who pays the bills</td>
</tr>
<tr>
<td></td>
<td>Continue at home institution</td>
</tr>
<tr>
<td></td>
<td>Teachers/mentors/family</td>
</tr>
</tbody>
</table>
What are attributes that enhance success in an international setting?

What are External Factors that mentors might miss?
Family

Mentoring according to an understanding of a given student’s family situation is increasingly important

Living at home? (independence)
Need to financially support family
Family support for diabetes/obesity/dementia
Student is a young parent
Family beliefs
“helicopter” parents

All evolving

Dr. Johnnetta Cole (past President of Spelman) - 4 obstacles to African Americans studying abroad

1. Faculty and Staff (from failing to encourage black students to a dearth of resources).
2. Finances (black students are more likely to come from families with lower incomes).
3. Family and Community (safety issues and concerns about racism in an unknown place).
4. Fears (student worries about encountering new forms of racism).
Oleg Melynk, Institute Pasteur de Lille, France
Cancer Biology and Chemistry

“Prepare long in advance of arriving”

“When you go abroad, try and make your “group” those around you in the laboratory, avoid only doing activities with other Americans”

‘Our multidisciplinarity is an asset’
2 start-ups
Multiple large grants from the European Union
Part of comprehensive cancer center (only 10 in France)

“One-pot chemical synthesis of small ubiquitin-like modifier protein–peptide conjugates using bis(2-sulfanylethyl)amido peptide latent thioester surrogates”

New regenerative peptide polymer materials

Elijah Martin (Morehouse College), 2011
Now UC San Francisco


“Synthesis and use of bis(2-selenalylethyl)amido peptides as peptide selenoester surrogates” Raibaut, L; Ollivier, N.; Chang, Yun Min; Monbaliu, JCM; Melnyk, Oleg; 2015, Submitted
“Teach students to translate intuition into formulation of a problem”

I do not need “another pair of hands”… “bring your own ideas, they could be right, they could be wrong”

“Diversity is richness”… “research abroad is not a substitution… it is an addition…. You loose nothing by learning something else

“Molecular tectonics: From simple tectons to complex molecular networks” Hosseini, MW Accounts of Chemical Research 38 313-323 (2005) 524 citations
"In the summer of 1999, I participated in an UG research opportunity that changed my life. I went from being a student with little direction to a person in charge of my own future. UG research helped prepare me for graduate studies, and ultimately, for my job at UCLA as an assistant professor."

"Embrace the experience and expect to be challenged"

Neil Garg, UCLA

When you are abroad “be fearless”

“Fearless can be the bungee cord”

Bungee Jumping
Interlaken Summer 1999

“Just as much (more) fearless can be participating in the daily lab coffee break ”
Advice for success

- Remind mentees – it is *more work than may have been originally thought*, to be successful in an international lab.
- Important to train students to ask lots of questions and be *extremely diligent about communicating*.
- Keep an *open mind*.
- More important than in a non-international lab.

Advice to faculty mentors

- Evaluations and progress reports to provide focus for project trajectories
- Organization is key

Olaseni Sode, Postdoc Univ Chicago, and (2005) Undergraduate Researcher – Toulouse France

---

The Igau group, Lab de Chimie de Coordination, Toulouse, France circa. 2005.

---

Gwenael Rapenne, Toulouse Coordinator

---


---

Synthesis of polycyclic aromatic hydrocarbon-based nanovehicles equipped with triptycene wheels

Figure 9. Olaseni Sode was an NSF REU student funded through Dr Duran’s grant in 2005 at the Laboratoire de Chimie de Coordination (Toulouse). After a PhD at Illinois, he won a Ford Foundation postdoc award to continue in computational chemistry at the University of Chicago. He joined the chemistry faculty at the University of Tampa as an Assistant Professor in 2015.

This summer he returned as an invited speaker to the workshop in Grenoble where he gave the inspirational talk “Electron Transfer and Proton Transport in [FeFe]-Hydrogenase with Multiscale Computer Simulations” to the group of undergrad researchers.
“Faculty mentors should keep an open mind about how the research their student will do could benefit their own research program”

“US mentors can have an invaluable role in identifying prospective students”

We study bacteria, \((Staphylococcus aureus\) and \(Mycobacterium tuberculosis\)) and environmental bacteria which are important in global carbon cycling (cyanobacteria). How these bacteria respond to stress helps reveal new drug targets and helps to reveal how environmental changes will affect organisms (cyanobacteria).

“Teach US UGs how to network/socialize quickly with their new labmates – this makes A huge difference in getting results faster and is also a valuable skill for industry later”

Development and Synthesis of dimethyl and di(15-Crown-5) Cyclam Ligands for Potential Use of Unique Photochemical and Electrochemical Properties

Ashlie Walker, Eric Gouret, Marie-Noelle Collomb, Guy Royal

Manuscript in preparation
Multifrequency cw-EPR and DFT studies of a dynamic Jahn-Teller effect in a mononuclear Cu(II) complex

Nikita Hall, Maylis Orio, Christopher Wills, Florian Molton, Malcom A. Halcrow, Carole Duboc, and Allan Blackman

Inorg. Chem. : under revision

“teach undergrads to put aside (unavoidable) preconceptions about an international location and instead discover by themselves”

Carole Duboc University Joseph Fourier, Grenoble France
Train students to ask immediately when something doesn’t seem right

Manganese(I) Carbonyl Complexes of Substituted Terpyridyls: Syntheses, Crystal Structures, and Photochemical Properties with a View towards Applications as CO-Releasing Molecules.

Jean-Daniel Compain, Matthew Stanbury, Monica Trejo, and Sylvie Chardon-Noblat

Inorg.Chem. , submitted
Cobalt(III) tetraaza-macrocyclic complexes as efficient catalyst for photoinduced hydrogen production in water: theoretical investigation of the electronic structure of the reduced species and mechanistic insights.

Robin Gueret, Carmen E. Castillo, Mateusz Rebarz, Fabrice Thomas, Aaron-Albert Hargrove, Jacques Pécaut, Michel Sliwa, Jérôme Fortage, and Marie-Noëlle Collomb

*J Photochem Photobiol B: Biology, submitted*

Train students to **make the most of professional opportunities abroad, their skills in American Scientific writing can be very useful**
### Table 4 iREU Participants 2013-2015

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Minority</th>
<th>Grad School</th>
<th>Pub/Presentation</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2013</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edgar Campbell</td>
<td>CSU-LSAMP</td>
<td>Hispanic</td>
<td>Stanford</td>
<td>Yes¹/No</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Drew Harding</td>
<td>No - LSU</td>
<td>White</td>
<td>Texas A&amp;M</td>
<td>No/Yes²</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Aaron Hargrove</td>
<td>GA LSAMP</td>
<td>Afr Am</td>
<td>St.Louis Pharm.</td>
<td>Yes³/⁴/No</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Jessica Jones</td>
<td>VA-NC LSAMP</td>
<td>Afr Am</td>
<td>7th Grade Teach</td>
<td>No/No</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Rachelle Richardson</td>
<td>LS-LAMP</td>
<td>Afr Am</td>
<td>Apply grad sch</td>
<td>Yes⁵/Yes⁶/⁷</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Christopher Wills</td>
<td>GA LSAMP</td>
<td>Afr Am</td>
<td>Rice University</td>
<td>Yes⁸/⁹/No</td>
<td>Grenoble</td>
</tr>
<tr>
<td><strong>2014</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dara Bobb-Semple</td>
<td>SUNY LSAMP</td>
<td>Afr Am</td>
<td>Stanford</td>
<td>Yes¹⁰/¹¹/No</td>
<td>Leuven</td>
</tr>
<tr>
<td>Jacinto de la Cruz</td>
<td>CSU-LSAMP</td>
<td>Hispanic</td>
<td>Apply grad sch</td>
<td>Yes¹²/¹³</td>
<td>Lille</td>
</tr>
<tr>
<td>Rosalyn Kent</td>
<td>LS-LAMP</td>
<td>Afr Am</td>
<td>Univ Michigan</td>
<td>Yes¹⁴/¹⁵/¹⁶</td>
<td>Lille</td>
</tr>
<tr>
<td>Corey Landry</td>
<td>LS-LAMP</td>
<td>White</td>
<td>Georgia Tech</td>
<td>Yes¹⁷/¹⁸/¹⁹/²⁰/²¹</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Erika McClain</td>
<td>LS-LAMP</td>
<td>Afr Am</td>
<td>Apply Ph.D/MD</td>
<td>Yes²²/²³/²⁴</td>
<td>Lille</td>
</tr>
<tr>
<td>Manon Raval</td>
<td>No - Illinois</td>
<td>White</td>
<td>MIT</td>
<td>Yes²⁵/²⁶</td>
<td>Leuven</td>
</tr>
<tr>
<td>Keely Redhage</td>
<td>OK-LSAMP</td>
<td>Nat Am</td>
<td>Mayo Clinic</td>
<td>No</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Dhruv Seshadri</td>
<td>No - CWRU</td>
<td>White</td>
<td>Texas A&amp;M</td>
<td>Yes²⁷/²⁸/²⁹/³⁰/³¹</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Monica Trejo</td>
<td>CSU-LSAMP</td>
<td>Hispanic</td>
<td>Industrial Job</td>
<td>No</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Ashlie Walker</td>
<td>OK-LSAMP</td>
<td>Nat Am</td>
<td>Univ of Kansas</td>
<td>Yes³²/³³/³⁴/³⁵</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Jonathon Watson</td>
<td>LS-LAMP</td>
<td>Afr Am</td>
<td>Still undergrad</td>
<td>No/Yes³⁶</td>
<td>Grenoble</td>
</tr>
<tr>
<td><strong>2015</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Andres Criado</td>
<td>OK-LSAMP</td>
<td>Hispanic</td>
<td>Still undergrad</td>
<td>Yes³⁷/Yes³⁸/³⁹/⁴⁰/⁴¹</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Dakari Franklin</td>
<td>GA LSAMP</td>
<td>Afr Am</td>
<td>Still undergrad</td>
<td>No/Yes³²³/³⁴/³⁴</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Nat Ghebrendrias</td>
<td>CSU-LSAMP</td>
<td>Afr Am</td>
<td>Still undergrad</td>
<td>No/Yes³⁵/³⁶</td>
<td>Toulouse</td>
</tr>
<tr>
<td>Amir Hobson</td>
<td>GA LSAMP</td>
<td>Afr Am</td>
<td>Apply PhD/MD</td>
<td>No/Yes³⁷/³⁸</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Anastasia LeBeaud</td>
<td>LS-LAMP</td>
<td>White</td>
<td>Apply PhD/MD</td>
<td>No/Yes³⁹/⁴₀/⁴₁</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Nick Means</td>
<td>OK-LSAMP</td>
<td>Hispanic</td>
<td>Apply Ph.D</td>
<td>Yes³²/³³/³⁴</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Lydia Mensah</td>
<td>LS-LAMP</td>
<td>Afr Am</td>
<td>Univ Michigan</td>
<td>Yes³⁵/³⁶/³⁷/³⁸/³⁹/⁴₀</td>
<td>Grenoble</td>
</tr>
<tr>
<td>Alexandra Saxberg</td>
<td>CSU-LSAMP</td>
<td>Hispanic</td>
<td>Still undergrad</td>
<td>No/Yes³⁵/³⁶</td>
<td>Toulouse</td>
</tr>
<tr>
<td>Roberto Tovar</td>
<td>CSU-LSAMP</td>
<td>Hispanic</td>
<td>Apply grad sch.</td>
<td>n/r</td>
<td>Toulouse</td>
</tr>
</tbody>
</table>

84% students of color

~10 pubs (first 2 yrs)

11 students extended their stay
The Bologna Process

Voluntary creation of comparable higher education standards across Europe

Common framework of comparable degrees

Three level system UG/Grad/Doctoral

Enhanced mobility

ETCS-compatible credit system
Equivalence of European Master’s degree.

“One goal of this REU is to enable participants to extend their authentic research experience abroad and/or have the opportunity to do some or all of their graduate studies in an international location.”

Extend REU students to six months (summer plus semester)

Corroborating support letter from European mentor

Obtain the “local” equivalence of the “M2” year after completion of their US Bachelor’s degree.

The equivalence will be documented in a cosigned letter.
Erasmus Plus award between Univ Joseph Fourier and LSU

Funds 24 faculty visits – mostly 1 month, in 2016 and 2017

Introducing several $5,000 “Collaborative Research Initiation” awards for US mentors of iREU participants

Based on the demonstrated potential for ongoing collaboration between the LSAMP and European groups

Investing in our mentors will deepen interactions focused on a given REU project to increase its long-term impact and value.
Nick Means (2015 Grenoble) 6 month research project implantable biofuel cells.

Nick functionalized and used electrochemical methods to refine anodes working with mentor Dr Alan Le Goff

Meanwhile and aided by Nick’s weekly reports, Gopan Krishnan, his US mentor and Oklahoma State Asst Chemistry Prof, refined flexible Bucky paper-based cathodes.

Midway through Nick’s REU experience, the cathodes were sent to Grenoble and work started on optimizing the resulting “transatlantic” biofuel cell which Nick was able to see in operation before he returned.

Dr. Krishnan hopes to incorporate this international collaboration in his own 2016 NSF CAREER proposal.

Back in Oklahoma now, Nick is collaboratively writing the publication and will participate in a fall 2015 panel on publishing internationally as part of the NSF LSMCE meeting.
Leuven, Belgium performs research in nanoelectronics and bio-nano science.
Grenoble houses one of the largest sets of science and technology centers in Europe; GIANT (Grenoble Innovation for Advanced New Technologies) innovation campus serves as an umbrella organization.
The University of Toulouse was founded in 1229, and along with those of Bologna, Oxford, the Sorbonne and Salamanca, is one of the oldest in Europe.

Now in the shadows of one of the largest manufacturing facilities in the world (Airbus), it conducts the chemistry and materials research that complements and informs industrial needs.
The University of Bordeaux dates back to 1441. Ranked among the top universities in France, and among the top 200 for Chemistry in the Shanghai ranking, it is an international, multi-disciplinary, research-focused institution.

A number of translational science efforts are active with one example being the Laboratory of Future (LOF), a joint venture between CNRS, UBx and Solvay chemicals.
No application (!!!) nomination only

National recruiting especially from LSAMP institutions.

Formal nomination method, whereby a list of several dozen potential European mentors, each with citations to a few recent publications, is disseminated

LSAMP directors or faculty mentors submit their nominations. We attempt to limit to two nominations per LSAMP to encourage broad-based recruiting

The nomination dossier includes several key components and a number of informational items e.g., unofficial transcripts. For this renewal we propose to adopt LinkedIn,

Most valuable to the entire process is a statement by the mentor which speaks to the student’s research skills and motivations with a recommendation of a specific “top choice” European mentor and why that research group is a best fit for the nominee and the LSAMP mentor.

A final key element is a previous research summary. Nominees summarize research accomplishments and skills at obtaining publication-quality results.
<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Research Area</th>
<th>#UG Pubs</th>
<th>Name</th>
<th>Location</th>
<th>Research Area</th>
<th>#UG Pubs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olivier Sandre</td>
<td>Bordeaux</td>
<td>Magnetic nanoparticles</td>
<td>5+</td>
<td>Mihaela Popovici</td>
<td>Leuven</td>
<td>Atomic layer deposition of SrRuO3</td>
<td>1</td>
</tr>
<tr>
<td>Dario Bassani</td>
<td>Bordeaux</td>
<td>Supramolecular materials</td>
<td>5+</td>
<td>Sebastian Haesler</td>
<td>Leuven</td>
<td>Neurochemistry</td>
<td>0</td>
</tr>
<tr>
<td>Cyril Aymonier</td>
<td>Bordeaux</td>
<td>Chem in super-critical fluids</td>
<td>0</td>
<td>Claudia Fleischmann</td>
<td>Leuven</td>
<td>3D chemical analysis heterogeneous mat.</td>
<td>2</td>
</tr>
<tr>
<td>Reiko Oda</td>
<td>Bordeaux</td>
<td>Interfacial chemistry</td>
<td>2</td>
<td>Erik Dujardin</td>
<td>Toulouse</td>
<td>Colloidal quan-tum plasmonics, interfaces</td>
<td>1</td>
</tr>
<tr>
<td>Rodolphe Clerac</td>
<td>Bordeaux</td>
<td>Magnetic Materials</td>
<td>3</td>
<td>Thierry Conard</td>
<td>Leuven</td>
<td>TOFSIMS-AFM 3D chemical analysis</td>
<td>1</td>
</tr>
<tr>
<td>Henri Cramail</td>
<td>Bordeaux</td>
<td>Polymer synthesis</td>
<td>5+</td>
<td>Dimitri Prodanov</td>
<td>Leuven</td>
<td>Nanomaterial biosafety</td>
<td>0</td>
</tr>
<tr>
<td>Nathan McClennagh</td>
<td>Bordeaux</td>
<td>Optical probe synthesis</td>
<td>4</td>
<td>Kuntheak Kheng</td>
<td>Grenoble</td>
<td>Ultrafast spectroscopy</td>
<td>5</td>
</tr>
<tr>
<td>Sébastien Lecommandoux</td>
<td>Bordeaux</td>
<td>Micellar polymer nanoparticles</td>
<td>5+</td>
<td>Pascale Chenevier</td>
<td>Grenoble</td>
<td>Functionalizing carbon nanotubes</td>
<td>5</td>
</tr>
<tr>
<td>Mona Tréguer</td>
<td>Bordeaux</td>
<td>Plasmonic nanoparticles</td>
<td>5</td>
<td>Serge Cosnier</td>
<td>Grenoble</td>
<td>Immunosensors and DNA sensors</td>
<td>5</td>
</tr>
<tr>
<td>JeanBaptiste Salmon</td>
<td>Bordeaux</td>
<td>Microfluidics</td>
<td>4</td>
<td>Redund Borsali</td>
<td>Grenoble</td>
<td>Self-assembly of biopolymers</td>
<td>2</td>
</tr>
<tr>
<td>Etienne Grau</td>
<td>Bordeaux</td>
<td>Green chemistry</td>
<td>5</td>
<td>Christophe Tenaille</td>
<td>Toulouse</td>
<td>Preparation/characterization of oxide materials for Energy</td>
<td>2</td>
</tr>
<tr>
<td>Mireille Blanchard-Desce</td>
<td>Bordeaux</td>
<td>Non-linear optics probes</td>
<td>5+</td>
<td>Christelle Hureau-Sabater</td>
<td>Toulouse</td>
<td>Metals and peptides</td>
<td>1</td>
</tr>
<tr>
<td>Liesbet Lagae</td>
<td>Leuven</td>
<td>Functional nanoparticles</td>
<td>5+</td>
<td>Didier Boturynt</td>
<td>Grenoble</td>
<td>Chemoselective ligations</td>
<td>5+</td>
</tr>
<tr>
<td>Stefan De Gend</td>
<td>Leuven</td>
<td>2D material growth</td>
<td>5+</td>
<td>Didier Gasparutto</td>
<td>Grenoble</td>
<td>Chemical analysis of DNA damage</td>
<td>5+</td>
</tr>
<tr>
<td>Christoph Aldemann</td>
<td>Leuven</td>
<td>ALD/CVD/PVD/MBE film deposition</td>
<td>5+</td>
<td>Gwénaël Rapenne</td>
<td>Toulouse</td>
<td>Synthesis of molecular machines and motors</td>
<td>5+</td>
</tr>
</tbody>
</table>

3. “High-k dielectrics for future generation memory devices (Invited Paper)” Kittl, JA; Opsomer, K; Popovici, M; Menou, N; Kaczer, B; Wang, XP; Adelmann, C; Pawlak, MA; Tomida, K; Rothschild, A; Govoreanu, B; Degraeve, R; Schaekers, M; Zahid, M; Delabie, A; Meerschaut, J; Polspoel,
Attributes that enhance success in an international setting:

Technical skills
Demonstrated work ethic, reliability, dedication
Adaptable, Good Personality, team player
Creative/Fearless
Good communicator

Others that might be less obvious:

Time management
Independence
Represents themselves well - not “fussy”
Embraces “norms” in another country
Mindful of personal security
Professional Etiquette

External Factors mentors may miss:

Family constraints, “helicopter” parents, illness, student’s academic status