

Curriculum Vitae

Name: Antoun Georges Daou
Date of Birth: 28 January 1978
Place of Birth: Borj El Barajneh, Lebanon
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Experience:

- 2009-... International Special Projects Unit
- Base Affiliation: Bahrain-Canada-USA
 - Project Management, Business Plans, and General Consultancy:
 - Kingdom of Saudi Arabia, Kingdom of Bahrain, United Arab Emirates, Republic of South Africa, Jordan, Lebanon, United States, Canada, Germany
 - Official Strategic Consultancy and Forecasts
 - Educational Policies Draft Consultancy
 - Higher education and research planning and strategic implementation
 - High Quality Development Projects
 - Asset Assessment and Evaluation Expert
 - Space Research Collaboration
 - Scientific Twinning and Educational Outreach
 - Community Service Center Planner
 - Visiting Centers and Museum Planner
 - International Bridging and Exchange Programs

2003-... Rice University Houston, TX

Astrophysics, Solar Physics Researcher, Mechanical Engineering Researcher

- Solar Physics and Stellar Astronomy research under sponsorship of Rice, NASA and Lockheed Martin Solar and Astrophysical Lab
 - Solar Physics Research: Solar Flares, Magnetic Topology, Particle Injection and Transport Processes, Satellite Imagery Analysis (RHESSI, TRACE, SOHO...), Surveys of CMEs, X-ray production, Image Reconstruction and Analysis Algorithms, Computing issues and server administration
 - Stellar Astronomy Research: T Tauri stars, Protostars and Planets, Spectropolarimetry, Ground Observation

- Member of the Rice University Alexander Solar Group
- NASA Marshall Space Flight Center NPP Pros.
- NASA Johnson Space Flight Center STEREO Forecast Project co-Investigator
- University of California, Berkeley, CA Space Sciences Lab Pros.
 - Solar Physics Researcher XIII Position
 - RHESSI Program Steering Team
- Member of the American Astronomical Society
- Member of the American Solar Physics Division
- SHINE group Member and Steering Committee Expert
- Mechanical Engineering Studies
- Mechatronics and Control Systems Research
- Science Outreach Program Director
- Social Reform Program Director
- Joint-project with the Stanford Solar Group (Space Weather Monitors Program)
- Active in the Rice University Outreach Council
 - Coordination on multiple projects (REAP, LNN...)
 - 2006 Rice University Educational Outreach Council Forum
- Physics and Astronomy Recitation Teacher
- Leadership Rice Envision Grantee and Collaborator
- Joint-Project with the Office of International Students and Scholars
 - REAP – Rice Experiences Advertised to Prospects
 - English classes teacher replacement
 - International Education Week Project Coordinator

2005-... LNN Beirut, Lebanon

Founder and President of the Lebanese National Network

- Founder and president of LNN initiation committee
- Founder and Coordinator of LNN-SciLeb team
 - Roadmap for the Development of Excellence Research Centers in Lebanon
 - Education roadmap project coordinator
 - Science Elite Students Program Coordinator
 - Leadership Camp Administrator
 - Teacher Professional Development Coordinator
 - Facility Assessment and Adaptive Measures in Schools
 - Evaluation Techniques and IT Applications in Education
 - Speaker Programs Coordinator
 - Nationwide Science Competition Coordinator
 - Nationwide Arts Tournament Coordinator
 - Lebanese National Culture Tournament Coordinator
 - Speakers Bureau Director
 - Foreign Missions Collaboration and Reciprocal Consulting
 - E-planetarium project

2002–2003 Phoenix Machinery, INDEVCO Safra, Lebanon
Mechanical Design Engineer

- Mechanical design
- Manufacturing and Assembly of heavy Machinery
- Intelligent and Automatic Electro-Mechanical Components
- Field project execution in Sanita Lebanon
- International cooperation and consultation

2001–2002 French Embassy Beirut, Lebanon

TPE Sciences Tests Official Examiner

- Official examiner in the Scientific French Baccalaureate tests
- Assistant in the pre-evaluation process
- Deliberant in the post-evaluation process

2001-2002 Lebanese Official Teacher Training Beirut, Lebanon

Physics and Lab Teacher Trainer

- Full section teacher trainer
- Physics laboratory trainer
- Examiner for teacher graduation

1998 Egyptian Iron and Steel Company Cairo, Egypt

Engineering Training, IAESTE

- Iron and steel blast furnaces operation in Helwan
- Iron ore mines visits in Baharya oasis
- Heavy machining section in Helwan
- Command center in Cairo

1998–2002 College des Peres Antonins Baabda, Lebanon

Sciences Lab Responsible and Coordinator

- Establishment and refurbishing of science labs
- Lab coordination and process design
- Coordinating Experiments and related logistics

1998–2002 College des Peres Antonins Baabda, Lebanon

Sciences and Technology Teacher and Coordinator

- In charge of the elite Scientific French Baccalaureate Sections
- Active role in the national scientific teaching committee
- Free task of off-campus tutoring (up to 600 students)

Education:

1982-1995 College des Peres Antonins Baabda, Lebanon
Lebanese Baccalaureate, option Math-elem, high distinction
French Baccalaureate, option Maths, high distinction

1995-1999 American University of Beirut Beirut, Lebanon
B.E.M.E., Mechanical Engineering, Design Award

2003-2005 Rice University Houston, TX
Masters of Sciences in Astrophysics
MS Thesis: “Non-thermal Hard X-ray Flux Saturation in Solar Flares”
Director: Dr David Alexander
PhD Candidacy achieved, GPA 4.0/4.0

2005-2008 Rice University Houston, TX
Philosophy Doctor, Physics & Astronomy, Solar Physics
PhD Thesis: “Observational and Theoretical Interpretation of Energetic Particle Transport in Solar Flares”
Director: Dr David Alexander

Awards:

1999 Mechanical Design Esthetics Award – American University of Beirut – Lebanon

2002 Teacher Recognition – College des Peres Antonins – Lebanon

2002 Examiner Recognition – French TPE Official test – French Embassy – Lebanon

2004 American Astronomical Society – Solar Physics Division Studentship Award –
Denver, Colorado, USA

2004 SHINE Group Studentship Award – Big Sky, Montana, USA

2004 Cool Stars XIII meeting Studentship – Hamburg, Germany

2005 RHESSI DAW Meeting Studentship Award – Berkeley, California, USA

2005 SHINE Group Studentship Award – Kona, Hawaii, USA

2005 Leadership Rice Envision Grant – Houston, Texas, USA

2005 REAP Project Honorarium Award – Houston, Texas, USA

2005 Education Outreach Grant, U.S. embassy in Beirut, Lebanon

- 2006 Rice University OISS REAP Project Award – Houston, Texas, USA
- 2006 Rice University OISS Recognition Meeting – Houston, Texas, USA
- 2006 NASA – AAS – SPD Studentship Award – Durham, New Hampshire, USA
- 2006 Leadership Rice Envision Grant – Houston, Texas, USA
- 2007 Outreach Grant, U.S. embassy in Beirut, Lebanon
- 2007 Rice University OISS Recognition – Houston, Texas, USA
- 2007 Science Outreach Grant, U.S. embassy in Beirut, Lebanon
- 2008 SHINE Professional Recognition Award – Midway, Utah, USA
- 2008 Leadership Grant, U.S. embassy in Beirut, Lebanon
- 2008 Rice University Sallyport Award – Houston, Texas, USA
- 2009 King Saud University Welcome Shield
- 2010 Antonine Sisters Appreciation Trophy
- 2010 Royal Commission for Jubail and Yanbu Appreciation Shield

Publications and Presentations:

- *Spectropolarimetry of the Classical T Tauri Star T Tau*, A.G.Daou, C.M. Johns-Krull and J.A. Valenti, CS13, Hamburg, Germany, 2004
- *Non Relativistic Electron Beam Stability in Solar Flares*, A.G.Daou, D. Alexander and T.R.Metcalf, AAS 204 meeting, Denver, Colorado, USA, 2004
- *Transient Activity in Regions AR9906 and AR0069 in the build-up to the SEP events of 21 Apr 2002 and 24 Aug 2002*, A.G.Daou and D.Alexander, SHINE meeting, Big Sky, Montana, USA, 2004
- *Speak softly glove*, Mechatronics Application, Rice University, Houston, Texas, USA, 2004
- *Solar Physics at Rice University*, American University of Beirut, Lebanon, 2004

- *Learning Adventure in the Space Age*, College des Peres Antonins, Baabda, Lebanon, 2004
- *Rice University and Houston Texas*, Notre Dame University, Lebanon, 2004
- *Nonthermal Hard X-ray Flux Saturation in Solar Flares*, A.G.Daou, MS thesis, Rice University, ©, Houston, Texas, USA, 2005
- *Nonthermal Hard X-ray Flux Saturation in Solar Flares*, A.G.Daou and D.Alexander, AGU/SPD joint meeting, New Orleans, Louisiana, USA, 2005
- *Active Region Evolution in the Build-up to Large Solar Energetic Particle Events*, D. Alexander, A.Coyner , A.G.Daou and R.Liu, AGU/SPD joint meeting, New Orleans Louisiana, USA, 2005
- *You will look up and see the light*, College des Peres Antonins, Baabda, Lebanon, 2005
- *Outreach Activities in Lebanon – Preplans*, Rice University Educational Outreach Council Meeting, Houston, Texas, 2005
- *Spectropolarimetry of the Classical T Tauri Star T Tauri*, A.G.Daou, C.M. Johns-Krull and J.A. Valenti, AJ, 131, 520D, 2006
- *LNN-SciLeb Rice Science Tournament 2005 Prize distribution Ceremony Speaker*, College des Peres Antonins, Baabda, Lebanon, 2006
- *The Lebanese National Network – SciLeb Activities*, Rice University Educational Outreach Council Meeting, Houston, Texas, 2006
- *Conceptual Leadership*, Antonins, Lebanon, 2007
- *Learning Adventure in the Space Age*, 10+ schools, Lebanon, 2007
- *Social Reforms and Tomorrow's Challenges*, Antonins, Lebanon, 2007
- *Solar Ionospheric Disturbance Detection*, Lebanon, 2007
- *Saturation of Non-thermal Hard Xray Emission in Solar Flares*, David Alexander & Antoun Daou, ApJ, 2007, 666, 1268A
- *Flare substructure statistics and related solar events*, D. Alexander and A.G.Daou, Rice, 2007, in process
- *Observational and Theoretical Interpretation of Energetic Particle Transport in Solar Flares*, A.G.Daou, PhD thesis, Rice University, ©, Houston, Texas, USA, 2008

- *The Filament Moreton Wave Interaction of 2006 December 6*, H. Gilbert and A.G. Daou, 2008, ApJ, 685, 629G
- *Understanding Filament Eruption Characteristics Using STEREO data*, A.G. Daou, 2008, NASA JSFC report
- *Spatial and Temporal Development of Fiducial Current Systems in Solar Flares*, A.G. Daou, 2008, ApJ, in process
- *Fokker-Planck Modeling of particle distribution in post flare loops*, A.G. Daou, Rice, 2008, pending submission
- *The effects of warm target, magnetic convergence, coulomb collisions, and return currents on hard X-ray signatures of energetic particles in flare transport models*, A.G. Daou, Rice, 2008, pending submission

Interests and Skills:

Computer: IDL, Simulink, LabView, C++, AutoCAD, ProE, SolidEdge, 3Ds max, SolidWorks, Mathematica, Matlab, Publishing (Corel, Adobe suite ...), MS Office, all Windows Based Software, Linux, Hardware, Networking...

Languages: Excellent English, French, Arabic – Spanish (intermediate) – German (beginner)

Martial Arts: Kung Fu, Chayon Ryu (Rice Karate Club, KimSoo College of Tae Kwon Karate), Weapons (bong, long sword, lance)

Founder of the Rice Lebanese Club, Rice University, Houston, TX

Member of the American Astronomical Society

Member of the American Solar Physics Division

Administrator Member of SHINE Group

Teaching: anything in the scope of my knowledge

Music: Guitar, Piano, Chant, Classic

Interest in historical, political, religious and social debates and studies

Reading, Arabic, French, Spanish, and English literature

Leadership forums and literature