

# Frank Bynum

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## Summary

Professional with interests and skills in IT, Engineering Physics R&D (Aerospace and Energy), Graphic Arts, seeks to benefit missions of organization dedicated to generation of high-tech innovative products and services and/or identifying Sci/Tech/Society interaction options. Seeking business contacts, opportunities to participate in projects which need to utilize technical talents listed below.

## Education

BS Mechanical Engineering, Univ. of Louisville, KY; MS Applied Physics, Miami Univ., Oxford OH

## Background & Skills in R&D, Engineering Physics

- Disciplines: lasers and plasma physics; math modeling and analysis; general physics; thermodynamics and heat transfer; fluid mechanics; flight mechanics and other dynamical state spaces (chemical reaction kinetics, mechanical vibrations)
- Engineering technical functions have included: analysis; experimental equipment mechanical design and testing; implementing, in computer software, simulations of components or systems; literature searches
- Engaged in "Question finding", plus technical aspects of proposal development; recommended topics our groups would be capable of studying
- Thoroughly intertwined Engineering, R&D, with Science Applications Computer Usage; Performed Science Apps. programming; Knowledgeable about technologies for Energy Sources, for Aviation & Space Flight Systems Apps. Concepts

## Computing Skills

PC, Mac, Mainframe, Lan, Networks, Cisco Router/Access Server, Digium Telephony Cards, Cisco Linkey Router/Firewalls, hubs, WIFI cards, Analogue Telephone Adapters, misc. PC hardware

## Software Experience

MS Windows & Linux, word processing, spreadsheets, graphics, databases, programming, HTML, C, Pascal, Fortran Basic, CPanel, Corel Office Suite & Draw, MS Office Suite, Open Office Suite, Asterisk S/W Pbx, x-Ten's s/w phone, Wordpress, FTP, Telnet, SSH, various open source s/w, Dos, Wordstar, Lotus 123, Pagemaker

## Accomplishments

- Rebuilt PC equipment, install and use OS (Windows and Linux) & applications
- Edit, administer, employ Wordpress tools, on Jaluo.com, an East African international news, politics, and culture discussion forum web site with content sent by readership
- Explored Inet online small business methodologies, online tutorials from market leaders, managed domain names, set up Auto Responder/Mailing List Manager accounts for list building, configured websites offered by Inet business leaders, wrote an online shopping site: BuySellville.net
- Applied Google AdSense scripts and banner advertising, including affiliate marketing elements to websites for generation of revenue, followed SEO tips

- Online payment methods: arranged merchant accounts, applied enabling scripts to web pages, Authorize Net, PayPal
- Devised design concept and produced diagrams for wind power system, “Wind Funnel”, to collect wind from any direction without need to swivel in azimuth on a vertical mast with electric turbine and generator at ground level
- Devised several design concepts and variations for electric generation, with lighter than air platforms aloft, solar furnaces, tethers to ground or power beaming, revised descriptive text and drawings for presentations
- Wrote s/w in C for numeric solution trajectory simulations for aerospace vehicles or projectiles affected by thrust, lift, drag, valid from zero up to transorbital velocity magnitudes
- Produced web and database applications for a used auto parts site
- Integrated open source s/w PBX (Asterisk) and SQL database applications, into system for VOIP telephony routing, authentication, and accounting , employing Ingres, MySQL
- Configured Cisco Access servers/routers and Radius servers for VOIP and for dial-up ISP authentication and accounting
- Supervised four person teams in field service, retrieval, re-installation of business signs on client properties
- Performed survey measurements, produced scale drawings, presented sign plan permit application materials to town zoning and codes department officials

## Publications

Over 30 technical or other articles; list is available. Includes:

An IODINE FLUORIDE FLOW TUBE (IFFT) for CHEMICAL LASER RESEARCH: SPECTROSCOPIC CONSTANTS, CHEMICAL KINETICS, and OTHER MODELING CONSIDERATIONS; MS Thesis, Physics Dept., Miami University Oxford OH.; Aug.'92; aided by AFOSR contract F49620-88-C-0053

NO NEED to WAIT on a ROCKET FROM HOME for AIR; Fosfax, the Newsletter to Fosfa, a speculative literature discussion group

[http://blog.jaluo.com/?page\\_id=3136](http://blog.jaluo.com/?page_id=3136) Sci/Tech/Society, a topic page on Jaluo.com for Dec. 1,2009 0147 “Space Nuclear Power, a Political Controversy”, and July 25, 2011 07:37 “World: Moon Day: Biotech and Planet of Apes (under pen name pwbmspac)

## Work Experience

2003-present

**MDI**

Dayton, Ohio

*Office Manager*

- Used auto parts company

2001-2005 (overlapping above)

**WDC**

Dayton, Ohio

*Technical Operations Director*

- Long distance international telephony service

**Miller Sign and Awning Co.**

Dayton, Ohio

*Signs Graphic Art, Manufacturing, and Installation Staff Member*

**Miami University**

Oxford, Ohio

*Physics Dept. Graduate Assistant*

**Universal Energy Services**

Kirtland AFB, New Mexico

***Graduate Student***

- Contractor AFOSR Program, staffing USAF lab, Advanced Chemical Lasers Branch, Visible Chemical Lasers Project
- Research participation experience for graduate students and university faculty
- Under continuing civilian staff members Dr. Truesdale or Dr. Gordon Hager

**University of Louisville Electrical Engineering**

Louisville, Kentucky

***Student Research Assistant***

- Assisted Prof. K.C. Bordoloi in Energy Tech Innovations (solar and hydrogen)

**CAB Labs**

Louisville, Kentucky

***Dental Technician***

- Learned skills and assisted in family business operated by C.A. Bynum