

ARBIOS SYSTEMS INC  
Form 424B3  
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PROSPECTUS SUPPLEMENT NO. 1  
(To Prospectus Dated February 22, 2005)

**ARBIOS SYSTEMS, INC.**

Common Stock

This Prospectus Supplement No. 1 supplements, and should be read in conjunction with, our prospectus dated February 22, 2005. This Prospectus Supplement contains information regarding recent results of operations and other information about Arbios Systems, Inc., and must be delivered with the prospectus.

**Management Additions.**

*New Officers and Offices.* Effective March 31, 2005, we entered into an employment agreement with Amy Factor pursuant to which Ms. Factor was appointed as our interim Chief Executive Officer. Under the agreement, Ms. Factor will be our Chief Executive Officer on an interim basis until a permanent Chief Executive Officer is hired. The employment agreement is terminable by either Ms. Factor or us at any time upon 30 day's prior written notice. Ms. Factor had provided consulting services to us since November 2003.

On April 25, 2005, Shawn Cain will join us as our new Vice-President of Operations. Mr. Cain's duties will consist of managing all of our operations related to our liver assist technology, including the new liver manufacturing operations we will soon commence at our new Woodstock, Connecticut facilities.

In March 2005, Scott Hayashi, our Vice President of Administration and Secretary also assumed the office of Chief Financial Officer.

*New Members of our Board of Directors.* Effective March 31, 2005, we also appointed both Amy Factor and Thomas C. Seoh as new directors on our Board of Directors.

*Business Experience and Directorships.*

Ms. Factor has been the President of both AFO Advisors, LLC and AFO Capital Advisors, LLC since 1996. AFO Advisors, LLC and AFO Capital Advisors, LLC are consulting companies specializing in business development, strategic planning and structuring financings for both public and private companies. Ms. Factor earned a Bachelor of Science degree in economics and accounting from Duke University and a Masters of Business Administration from Rutgers University.

Mr. Cain has been employed at Becton Dickinson & Company since June 2003, holding various positions, including most recently the position of Manager of Operations. Prior to working at Becton Dickinson, Mr. Cain was employed at W.R. Grace & Co.'s Research Division, and its wholly-owned subsidiary, Circe Biomedical, Inc., where he was involved in early development work on bioartificial liver technology, including HepatAssist (the predecessor of our HepatAssist-2™). Mr. Cain earned a Bachelors of Science degree in Biological Sciences from Northeastern University and a Masters of Science degree in Biological Sciences from the University of Massachusetts.

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**The date of this Prospectus Supplement is April 7, 2005.**

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From 1995-2005, Mr. Seoh was a senior executive with Guilford Pharmaceuticals Inc., a NASDAQ-listed biopharmaceutical company with two marketed products and Phase III and Phase II programs targeting the central nervous system and cardiovascular indications. While at Guilford, Mr. Seoh held various positions, including, most recently, Senior Vice President, Corporate and Commercial Development, and previously, Vice President, General Counsel and Secretary. Currently, Mr. Seoh is Managing Director of Beyond Complexity Ventures, LLC, which is engaged in start-up activities involving technologies including cell therapy, pharmacogenomic diagnostics and drug delivery.

*Compensation of New Chief Executive Officer and New Directors.*

Under our employment agreement with Amy Factor, we agreed to pay Ms. Factor a base salary at a monthly rate of \$25,000 (which is equivalent to \$300,000 on an annualized basis) and to issue to Ms. Factor five-year non-qualified stock options to purchase an aggregate of 200,000 shares of our common stock. The options are exercisable at \$1.65 per share (the closing market price of our common stock on March 31, 2005). Options to purchase 80,000 shares vested on March 31, 2005, and the options for the remaining 120,000 shares will vest in monthly installments of 6,000 shares commencing on April 1, 2005. The vesting of these options will be accelerated to be immediately and fully (100%) vested when we hire a permanent Chief Executive Officer. If Ms. Factor terminates the employment agreement for any reason other than our breach of the agreement, or if we terminate the agreement "for cause" (as defined in the agreement) before all of the remaining 120,000 options have vested, all unvested options will be forfeited. If we terminate the employment agreement for any reason other than cause, the options will thereupon immediately and fully (100%) vest.

We have agreed to pay Mr. Cain a salary of \$160,000 per year and have granted him a five-year incentive stock option to purchase an aggregate of 30,000 shares of our common stock. The options are exercisable at \$1.65 per share and will vest pro rata over a 24 month period commencing on May 1, 2005.

In accordance with our recently amended compensation policies, at the time of his appointment to our Board of Directors, Mr. Seoh was granted a seven-year non-qualified stock option to purchase an aggregate of 30,000 shares of our common stock. The options are exercisable at \$1.65 per share (the closing market price of our common stock on March 31, 2005). Options to purchase 15,000 shares vested on March 31, 2005, and the options for the remaining 15,000 shares will vest on March 31, 2006.

**New Facilities**

Effective April 1, 2005, through our subsidiary we entered into a lease with American Integrated Biologics, Inc. for a 1,680 square foot facility in Woodstock, Connecticut. The facility was built for swine housing and tissue procurement. We intend to use these facilities for the purposes of harvesting livers for use in our bioartificial liver products from specially bred pigs. The base rent under this lease is \$12,009 per month. The lease has an initial term of two years, subject to our right to extend the term of the lease for a total of nine additional years.

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## **Management's Discussion and Analysis and Plan of Operation**

The following information updates the discussion under the heading "Management's Discussion and Analysis and Plan of Operation" in the prospectus and should be read in conjunction with that discussion:

### **Results of Operations**

*Comparison of Fiscal Year ended December 31, 2004 to Year ended December 31, 2003.*

Revenues for the fiscal years ended December 31, 2004 and 2003 were \$72,000 and \$138,000, respectively. Since we are still developing our products and do not have any products available for sale, we have not yet generated any revenues from sales of any of our products. Revenues for fiscal years 2004 and 2003 represent revenues recognized during those periods from two government research grants that we received.

General and administrative expenses of \$1,989,000 and \$343,000 were incurred for the years ended December 31, 2004 and 2003. For the year ended December 31, 2004, the expenses include \$945,000 in non-cash option and warrant charges for grants awarded to consultants, \$587,000 in fees incurred to outside consultants and professionals, and \$179,000 in salaries and other administrative expenses. The 2003 expenses consist primarily of legal fees, audit fees and travel expenses. Professional fees increased in the 2004 period due to legal and accounting fees related to our status as a public company and legal expenses associated with the acquisition of certain assets from Circe Biomedical Inc. in April 2004. In 2004 we also incurred additional consulting fees in connection with our investigation of the suitability and advisability of submitting a Section 510(k) Pre-Market Notification with the FDA for our SEPET™ product. General and administrative expenses are expected to remain at a significantly higher level than in past periods due to the lease of additional office space (effective as of April 1, 2004), the addition of more employees and consultants (primarily to assist with our financial controls and investor relations strategies and to evaluate and prepare submissions to the FDA), and additional professional and other fees related to being a public company.

Research and development expenses of \$1,426,000 and \$437,000 were incurred for the years ended December 31, 2004 and 2003, respectively. Research and development expenses for the 2004 year increased by \$990,000 over prior year levels primarily due to \$450,000 of purchased research and development from Circe Biomedical, Inc., \$242,000 incurred for various research and development consultants regarding manufacturing, regulatory and product management, \$101,000 non cash option grant charges for options awarded to scientific consultants, \$52,000 in higher salary costs for scientists and technicians, and \$105,000 increase in preclinical testing of SEPET™ and LIVERAID™.

Interest income of \$16,000 was earned for the years ended December 31, 2004. In September and October 2003, we raised gross proceeds of \$4,400,000 in the private placement of our securities. As a result, during 2004, we maintained cash balances of between \$3.5 million and \$1.5 million. In addition, we used a portion of the foregoing offering proceeds to repay all outstanding indebtedness, thereby substantially decreasing our interest expense. Interest expense decreased to \$847 in fiscal 2004 from \$243,000 in fiscal 2003 due to the accounting treatment of the \$400,000 we borrowed from certain investors during fiscal 2003. The \$400,000 aggregate amount of loans were represented by convertible notes that were issued to the investors. In addition to the convertible loans, the investors also received, in the aggregate, warrants to purchase 300,000 shares of our common stock at an exercise price of \$1.00 per share. All of the loans were converted by the investors in October 2003 into 400,000 shares of common stock. The \$243,000 interest expense in fiscal 2003 represents a non-cash expense recognized under accounting rules based on the value of conversion feature of the convertible notes and the value attributed to the warrants. Since the convertible notes were converted in 2003, no additional interest accrued under these notes during 2004.

Our net loss increased to \$3,328,000 in 2004 from \$886,000 in 2003. The increase in net loss is attributed to an increase in operating expenses incurred in the fiscal 2004 periods as compared to the same periods in 2003, without an increase in revenues.

### **Liquidity and Capital Resources**

As of December 31, 2004, we had cash of \$1,502,000 and a total of \$469,000 of total indebtedness. We do not have any bank credit lines. To date, we have funded our operations from the sale of debt and equity securities.

On January 11, 2005, we completed a \$6,611,905 private equity financing to a group of institutional investors and accredited investors. In the offering, we sold 2,991,812 shares of our common stock at a price of \$2.21 per share to the investors and issued to them warrants to purchase an additional 1,495,906 shares of our common stock at an exercise price of \$2.90 per share. The warrants are exercisable for five years and can be redeemed by us after January 11, 2007 if the average trading price of our common stock for 20 consecutive trading days is equal to or greater than \$5.80 and the average trading volume of the common stock is at least 100,000 shares during those 20 days. We also issued warrants to purchase 114,404 shares of common stock to our placement agent in the offering.

Based on our current plan of operations and the private placement on January 11, 2005, we believe that our current cash balances will be sufficient to fund our foreseeable expenses through at least March 2006.

We do not currently anticipate that we will derive any revenues from either product sales or from governmental research grants during the current fiscal year. Although we are planning to submit an application for an additional SBIR research grant during 2004, no assurance can be given that the grant application will be approved. Even if the grant is approved, it is unlikely that we would receive any grant funds during the current fiscal year.

The cost of completing the development of our products and of obtaining all required regulatory approvals to market our products is substantially greater than the amount of funds we currently have available and substantially greater than the amount we could possibly receive under any governmental grant program. As a result, we will have to obtain significant additional funds during the 12-14 months following the date of the Prospectus Supplement. We currently expect to attempt to obtain additional financing through the sale of additional equity and possibly through strategic alliances with larger pharmaceutical or biomedical companies. We cannot be sure that we will be able to obtain additional funding from either of these sources, or that the terms under which we obtain such funding will be beneficial to this company.

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A summary of our contractual cash obligations at December 31, 2004 is as follows:

<b>Contractual Obligations</b>	<b>Total</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008 and thereafter</b>
Long-Term Office Leases	\$ 270,000	\$ 139,000	\$ 93,000	\$ 38,000	\$ -0-

**Other**

On March 30, 2005, we filed with the Securities and Exchange Commission our annual report on Form 10-KSB containing our complete financial statements for the year ended December 31, 2004 and the related management's discussion and analysis. For information on obtaining our Form 10-KSB, including exhibits, see the discussion in the prospectus under the caption "Where You Can Find More Information."

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