О Т Ч Е Т

НА ИНСТИТУТА ПО НЕВРОБИОЛОГИЯ

ПРИ БЪЛГАРСКА АКАДЕМИЯ НА НАУКИТЕ

ЗА НАУЧНО-ИЗСЛЕДОВАТЕЛСКАТА,

УЧЕБНА И ФИНАНСОВА ДЕЙНОСТ

ПРЕЗ 2012 Г.

1. ПРОБЛЕМАТИКА НА ЗВЕНОТО

1.1. Преглед на изпълнението на целите (стратегически и оперативни) и оценка на постигнатите резултати в съответствие с мисията и приоритетите на звеното, утвърдени от ОС на БАН при структурните промени през 2010 г.

Основният предмет на дейност на ИНБ е провеждане на фундаментални и научно-приложни изследвания в областта на невронауките, посредством интердисциплинарни неврофизиологични, психофизиологични и фармакологични подходи за получаване на нови знания за невробиологичните механизми на организация, адаптация и регулация в организма на човека и животните и фармакологичните въздействия върху тях

Стратегическа цел на научно-изследователската дейност на ИНБ е получаване на нови знания, провеждане на конкурентноспособни научни изследвания, създаване на нови диагностични и прогностични методи за подобряване на качеството на живот и на интелектуалните и физически възможности на човека.

През 2012 беше избран нов директор и ново ръководство на ИНБ, като беше запазена структурата на Института и научно-изследователската тематика продължи да се развива съобразно основните структуро-определящи научни направления в института: Сензорна невробиология, Когнитивна психофизиология, Поведенческа невробиология, Синаптична сигнализация и комуникации, Биологични ефекти на природни и синтетични вещества.

Отчетната 2012 г. беше втората година с намален бюджет - с драстично намаление на и без това недостатъчните средства отпускани за наука у нас. Независимо от това, ИНБ отговорно и ритмично изпълняваше функциите си, запазвайки своята цялост и интегритет. Въпреки усложнената ситуация, при която работят учените от ИНБ, научно-изследователската дейност се развива в съответствие с възприетите като стратегически направления и приоритети на научната политика на БАН за периода 2009-2013г. Основни задачи на ръководството на института, както и на целия изследователски състав, са привличането на финансови средства и публикуване в реномирани международни списания за повишаване на авторитета на института в международен план и извеждането му на лидерски позиции. В съответствие с Европейската стратегия "Европа 2020", националните приоритети и научната политика на БАН, основните насоки на изследванията провеждани в ИНБ са:

- изучаване на невробиологичните механизми на регулация на жизненоважни процеси в организма;
- изследване на неврохимичните, клетъчните и системно-интегративни основи на нормални и патологични процеси в нервната система;
- моделиране на неврофизиологични процеси и техните патологични отклонения;
- изследване на въздействие и/или взаимодействие на ендогенни и екзогенни биологично-активни вещества и лекарствени продукти и оптимизиране на възможностите за тяхното приложение;
- разработване на съвременни методи за анализ на мозъчни биоелектрични сигнали, както и на методични постановки с практическо приложение при клинични изследвания.

1.2. Връзки с политиките и програмите от приетите на ОС на БАН на 23.03.2009 г. „Стратегически направления и приоритети на БАН през периода 2009-2013 г.

Многообразната научно-изследователската дейност в ИНБ е в съответствие с очертаните "Стратегическите насоки и приоритети на БАН" за периода 2009-2013 и се вписва изцяло в: Политика 2: „Научен потенциал и изследователска инфраструктура – част от Европейското изследователско пространство", програма 2.3: „Качество на живота и интердисциплинарни изследвания на човека и живата природа".

В съответствие с проведената през 2010 г реформа в БАН и приетите от Общото събрание тематични направления, ИНБ е част от направлението „Биомедицина и качество на живот".

Насоките на научното развитие на ИНБ в голяма степен са в съответствие с приоритетната област "Здраве " на 7 Рамкова програма на ЕС (2007 – 2013).

1.3. Извършвани дейности във връзка с точка 1.2

Конкретните научно-изследователски задачи през отчетния период са в пълно съответствие с приоритетите на ИНБ и включват:

- **Изучаване на неврофизиологичните механизми на преработка на сетивна, двигателна и когнитивна информация**. Изследванията са съсредоточени върху изучаване влиянието на възрастта върху зрителното възприятие на пространство и

движение; изучаване на пространствената организация на механизмите откриващи стимули-решетки посредством оценка на влиянието на параметрите на стимула върху параметрите на зрително предизвиканите потенциали; корелация между промените на сензорните и когнитивни вълни на зрителни събитийно-свързани потенциали (ЗССП), наблюдавани при различни ориентационни разлики между зрителни стимули и селективността на специфични по ориентация канали; оценка на функционалното значение на мозъчните събитийно-свързани потенциали при преработка на информацията в мозъка в норма (развитие и стареене) и патология (хиперактивност и дефицит на вниманието), както и ролята на мозъчните осцилации и ритми при сън и бодърстване за консолидация на процедурална, имплицитна и експлицитна информация в паметта; сетивно-двигателната адаптация на движенията на ръката и очедвигателната система на здрави лица; мозъчно-коровата регулация на спокойния стоеж при сетивен конфликт; позно-двигателна координация в условия на различни сензорни задачи в норма и патология. Получените резултати от тази група изследвания имат освен фундаментално и научно-приложно значение свързано с нови знания подпомагащи клиничната практика

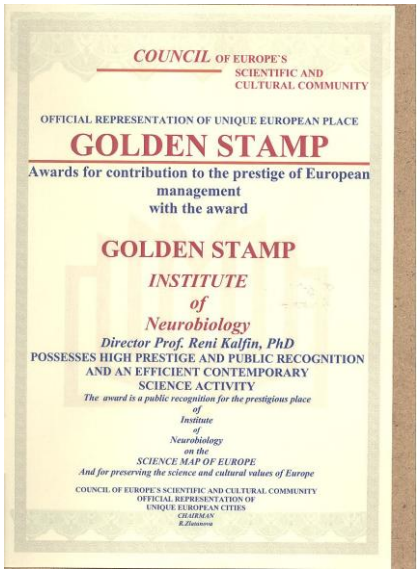
- **Моделиране на неврофизиологични процеси и техните патологични отклонения чрез:** изследвания върху експериментални модели на социално-значими заболявания -епилепсия, депресия, състояния на тревожност, стрес, агресия, модел на социална изолация; оценка ролята на невромедиатори/невромодулатори и техните рецептори (канабиноидни, ангиотензинови, никотинови, серотонинови, холецистокининови и др) върху поведението и локомоторната активност в състоянията на тревожност, паника, стрес, в нарушена болкова перцепция и паметов дефицит; проучване ефектите на новосинтезирани пептидомиметици (деривати на L-валин и никотинова, респ. изоникотинова киселина, М6 и Р6) върху променените в когнитивни функции на гризачи при модел на агресия и модел на социална изолация, изследване на невромедиирани моторни отговори на гастроинтестиналния тракт при оксидативен стрес и експериментални туморни модели; създаване и използване на експериментални модели за проучване на интимните механизми на синтез и секреция на бета-клетките в ендокринния панкреас, проучвания върху антитуморни и нестероидни противовъзпалителни средства, морфологични и имунохистохимични изследвания на каротидното телце, на главния мозък при висцерална болка, на дисталната част на

стомашно-чревния тракт при оксидативен стрес, както и анатомични изследвания при каинатна епилептогенеза. Резултатите от експерименталните изследвания дават светлина в изучаването и изясняването на механизмите на тези социално-значими заболявания и състояния, и допринасят за оптимизиране на терапията, имаща значение за подобряване качеството на живот на човека.

- **Фармакологични изследвания** свързани с изследване на въздействие и/или взаимодействие на биологично-активни вещества и лекарствени продукти и оптимизиране на възможностите за тяхното приложение: изследване невропротективните ефекти на хормона/невропептид соматостатин и неговия синтетичен аналог октреотид (активната съставка на лекарственото средство Sandostatin®) при условията на експериментална исхемия-реперфузия в изолиран цял пикочен мехур със съхранена инервация; тестване на биологичната активност на различни фосфоорганични съединения като инхибитори на ацилпептид хидролазата с цел изясняване на механизма на инхибиране и евентуалното използуване на активността на ензима като биомаркер на експозицията на човека към пестициди; изследване на 10 нови тетрехидроизохинолинови съединения като инхибитори на ензима ароматаза (лекарствени препарати с приложение за лечение на рака на гърдата).

1.4. Полза / ефект за обществото от извършваните дейности по т. 1.3

Посредством интердисциплинарни неврофизиологични, психофизиологични и фармакологични подходи се получат нови знания за интелектуалните и физически възможности на човека и се създадат нови диагностични, терапевтични и прогностични методи за човешката дейност в норма и патология. Крайна цел е подобряване качеството на живот на човека в условията на съвременната информационна и екологична среда.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Разработваните проблеми дават непосредствен принос в развитието на науката невробиология, за което през 2012 г. Съвета на европейската научна и културна общност удостои Института по Невробиология с награда „Златен печат“, а проф. Калфин, проф. Йорданова и

проф. Белчева - с наградата “Златна книга” за принос в развитието на българската наука.

1.5. Взаимоотношения с институции

ИНБ осъществява научно-изследователска и експертна дейност и участва в подготовката на специалисти (студенти, специализанти и докторанти) със следните институции:

Висши училища: Софийски университет „Св. Климент Охридски” (Биологически, Физически факултети, Факултет по начална и предучилищна педагогика), Медицинските университети в София, Пловдив, Варна и Плевен, Тракийски университет (Ст. Загора), Химикотехнологичен и металургичен университет-София, Нов български университет, Национална спортна академия “В. Левски”- София..

Здравни заведения: Университетската многопрофилна болница за активно лечение (УМБАЛ) „Александровска”, УМБАЛ “Царица Йоана-ИСУЛ”, Клиника по ендокринология – МУ София, Специализираната очна болница за активно лечение „Акад. Пашев” ООД- София.

Фирми: АД "Софарма" – експертна дейност, ИНЕКС-проект ООД – съвместна дейност за ранна диагностика на деменции и невродегенеративни заболявания.

Други институти на БАН: Институт по биофизика и биомедицинско инженерство, Институт по комуникационни и информационни технологии, Институт по експериментална морфология, патология и антропология с музей, Институт за изследване на населението и човека, Институт по механика

1.6. Общонационални и оперативни дейности, обслужващи държавата

През 2012 г. в ИНБ са разработвани съвместно с български Университети 8 проекта, с важно значение за развитието на здравеопазването и експерименталната медицина като:

- „ Фармако-физиологични характеристики на моторната дейност на висцералните гладки мускули” - разработка съвместно с Медицински университет Варна, ръководител от ИНБ чл. кор. Р. Радомиров

- „ Поведенчески ефекти на фенолните киселини:хлорогенова, ферулова и галова” - разработка съвместно с Медицински университет Варна, ръководител от ИНБ проф. И. Белчева
- “Участие на канабиноидните CB1 рецептори при депресивни състояния” - разработка съвместно с Медицински университет Варна, ръководител от ИНБ доц. Р. Ташев
- “Имунохистохимично изследване на АТФ-съдържащи структури в коло-ректо-анална област” - разработка съвместно с Медицински университет Плевен, ръководител от ИНБ проф. Н. Лазаров
- “Влияние на невропептида ангиотензин II върху промените в пространствената памет, денонощната ритмика на депресивни състояния и във водно-солеви метаболизъм при каинатен модел на темпорална епилепсия у Wistar плъхове” - разработка съвместно с Медицински университет София, участници от ИНБ доц. Я. Чекаларова и гл. ас. Д. Пехливанова
- Изследване влиянието на хронично инфузиране с хормона мелатонин върху последствията от каинат-индуциран епилептичен статус върху оксидативен стрес и heat-shock протеини у спонтанно хипертензивни плъхове -разработка съвместно с Медицински университет Плевен, участници от ИНБ доц. Я. Чекаларова и гл. ас. Д. Пехливанова
- „Когнитивни нарушения и биохимични корелати в хипокамп на плъхове с експериментална агресия. Механизми на защитно действие на новосинтезирани аминокиселини” - разработка съвместно с Медицински университет София, ръководител от ИНБ доц. Л. Танчева
- Изследване на свойството самоорганизация и образуване на надмолекулни комплекси на някои нови α-аминокиселинни производни в присъствието на метални соли - разработка съвместно с ХТМУ София, ръководител от ИНБ доц. Л. Танчева

Продължава успешното сътрудничество по двустранни договори между Института по невробиология и

- Медицински университет София,
- Медицински университет Плевен,
- Медицински университет Варна,
- Специализирана очна болница за активно лечение „Акад. Пашев”, където е създадено специализирано звено между двете институции с цел трансфер на

знания и внедряване на иновационни експериментални технологии и съвместен Научен съвет.

2. РЕЗУЛТАТИ ОТ НАУЧНАТА ДЕЙНОСТ ПРЕЗ 2012 Г.

През изтеклата година ИНБ представи в научното пространство общо 87 публикации от които 57 са излезли и 30 са приети за печат.

Анализът на публикационната дейност за 2012 г. Показва, че: 67 публикации (21 - под печат) са реферирани и индексирани в световни системи за реферииране, индексиране и оценяване като SCOPUS и Web of Science, което представлява 77% от общия брой публикации; 13 научни труда са отпечатани или приети за печат в нереферирани от информационните системи списания.

Учени от ИНБ са участвали в чуждестранни авторски колективи на 6 монографии (1 – под печат) издадени от реномирани чуждестранни издателства (Humana Press, Nova Science Publishers - USA и InTech, Rijeka) и 1 книга с научнопопулярена тематика в съавторство с български автори, издателство на УНСС.

В сравнение с 2011 г. броят на публикациите в реферирани научни списания е нарастнал с 13%. Прави впечатление големия брой участия на учени от ИНБ в мотнографични трудове, за разлика от 2011 г. Където такива липсват.

Петдесет и три (53) публикации са в издания с импакт фактор (IF), което съставлява 82% от реферираните публикации. Преобладаващата част от тях са в международни списания. Публикациите в издания с IF за 2012 г. съставляват 61% от публикационната продукция в ИНБ, което е с 10% повече спрямо тази през 2011 г. Общият импакт фактор на публикациите, изчислен по данни на ICI WEB of Knowledge за 2011 г. е 100.57. В съавторство с чуждестранни учени от САЩ и Европа (Англия, Германия, Италия, Белгия, Румъния, Чехия, Испания, Гърция и др.) са 23 от трудовете (26% от общия брой). Учени от ИНБ са участвали в чуждестранни авторски колективи на 6 монографии (1 – под печат) издадени от реномирани чуждестранни издателства (Humana Press, Nova Science Publishers - USA и InTech, Rijeka) и 1 книга с научнопопулярена тематика в съавторство с български автори, издателство на УНСС. През 2012 г. са забелязани в световната научна литература 601 цитирания на трудове на изследователи от ИНБ, от които 99% са цитирания от чуждестранни автори.

През 2012 г. в ИНБ са разработвани общо 35 научно-изследователски проекти, от които 10 с външно финансиране: 7 от Фонд “Научни изследвания”, като част от които бяха предоговорирони с редуциран до 50% бюджет и 3 с МУ- Варна. В 7 от

финансираните проекти ИНБ е водеща организация. Разработвани са: 9 проекта от бюджетната субсидия на БАН, за които са осигурени единствено работните заплати на научните колективи; 4- проекта по линия на международно сътрудничество в рамките на междуакадемични договори и споразумения (EBR) (Румъния, Германия, Чехия, Белгия) и 6 – в сътрудничество с Университети в чужбина (Германия, Швейцария, Англия). През изминалата година в търсене на финансови възможности за нормално провеждане на научно-изследователска дейност един изследователски колектив от направления "Сензорна невробиология" и "Когнитивна психофизиология " кандидатства за финансиране по 7^{ми} конкурс в рамките на българо-швейцарска програма за научен обмен, а 10 изследователски колектива от ИНБ участваха в обявената от НФНИ конкурсна сесия "Финансиране на фундаментални научни и научно приложни изследвания в приоритетни области-2012" с 12 проектни предложения, от които през декември 2012 беше финансиран само 1 проект с ръководител проф. В. Колев. Спечелени през м. декември 2012 г. и очакват финансиране 2 проекта - един по 7РП на тема: „Социална екосистема за забавяне на стареенето, подобряване на капацитета и качеството на живот", с координатор от страна на ИНБ- доц. Н. Бочева и един с фирма ИНЕКС-ООД на тема: „Иновативен метод и компютърно реализиран алгоритъм за ранна диагностика на деменции при невродегенеративни заболявания" с координатор проф. И. Белчева. Одобрени са 2 проекта по програма на финансиране на Японското правителство с координатори съответно доц. Н. Бочева и доц. Л. Танчева.

През годината бяха представени 46 научни съобщения в 22 международни и 7 национални научни форуми. Представеният от Лора Дякова постер на 10$^{-та}$ юбилейна медицинска научна конференция на студенти и млади учени с международно участие, проведена в гр. Плевен, бе премиран с първа награда.

Общо 9 учени от ИНБ са членове на 13 експертни комисии и органи на външни за БАН институции (7 национални и 6 международни). През отчетния период са изготвени от 18 учени общо 155 писмени становища, експертни оценки и рецензии. Осем учени от звеното са членове на общо 15 редакционни колегии на научни списания (13- международни и 2 български). Двама - участват в редакционни колегии на 4 престижни международни списания с импакт-фактор: проф Ю. Йорданова (Clinical Neurophysiology, Journal of Psychophysiology и Frontiers in Human Neuroscience) и доц. Ю. Душанова (Neural Regeneration Research). Проф. Йорданова през годината е направила общо 42 рецензии за 13 международни списания и 13 рецензии по Програма

„Здраве” от 7-ма Рамкова програма на Европейския съюз, където е Национално контактно лице за България (Приложение 26, 27).

През 2012 г., въпреки финансовите трудности за учените от ИНБ, качеството на научната продукция е в съответствие с основната стратегическа цел за провеждането на конкурентноспособни научни изследвания. Проведените изследвания се вписват изцяло в предмета на дейност и приоритетните направления на ИНБ, което е видно от темите на разработваните проекти и публикувани научни трудове (Приложения 3-11).

2.1. Научно постижение

Изследвана е ролята на съня за осъзнаването и откриването на абстрактни регулярности във външната среда, наличието на които е останало неосъзнато по време на будност. Установено е, че по време на бавновълнов сън възникват специфични невроелектрични патерни, които отразяват преструктуриране на паметовите репрезентации на задачата и са в основа за последващо осъзнаване на неосъзната информация. Разработката е в рамките на международно сътрудничество с Университета в Любек, Германия, с участници от българска страна проф. Ю. Йорданова и проф. В. Колев от ИНБ-БАН

2.2. Научно-приложно постижение

Създаден е нов неинвазивен метод за едновременно измерване еластичността на подлежащата артерия и кръвното налягане. Методът е приложим със съществуващите апарати за измерване на кръвно налягане с добавяне на автономно устройство и чип за обработка на данните, които не променят условията на измерване и не създават неудобство или болка на пациентите. Разработката е реализирана от гл. ас. инж. М. Антонова в направление „Поведенческа невробиология”, ИНБ - БАН.

3. МЕЖДУНАРОДНО СЪТРУДНИЧЕСТВО НА ЗВЕНОТО

Международното сътрудничество има изключително важна роля за цялостната дейност на Института, с цел успешното му интегриране в европейското научно пространство. През изминалата година усилията на учените от ИНБ бяха насочени към подържане и задълбочаване на установени научни контакти с водещи университети и изследователски центрове от страни членки на ЕС. Работата по съвместни проекти създава устойчиви условия за обмен на идеи и информация, както и за обективна

оценка на получените резултати в съответствие с утвърдените международни критерии и стандарти.

3.1. В рамките на договори и спогодби на ниво Академия

През 2012 в ИНБ бяха разработвани 4 проекта по ЕБР с партньори от Румъния, Германия, Белгия и Чехия (Приложение 11).

3.1.1 „Сензомоторна адаптация на движенията на ръката и очедвигателната система: общи и разделни механизми" с Партньор: Институт по физиология и анатомия, Спортен университет, гр. Кьолн, Германия по спогодба БАН-DFG, с ръководител от българска страна доц. В. Григорова;

3.1.2 "Приложение на човешки и животински клетъчни култури за идентифициране на съвременни материали с обещаваща биологична активност", с Партньор: Румънска Академия, с ръководител доц. Радостина Александрова и координатор от ИНБ проф. Р. Калфин;

3.1.3 "Проучване ролята на Ангиотензин II модулаторната система в механизмите свързващи мозъчната реактивност с хипертонията", с Партньор: Институт по физиология, Брюксел, Белгия, с ръководител от българска страна доц. Я. Чекаларова

3.1.4. "Проучване ефектите на постнатален изолационен стрес и хронично прилагани аденозинови агенти върху механизма модулиращ гърчово-пристъпната чувствителност в процеса на онтогенезата и зрелостта: ЕЕГ и поведение", с Партньор: Институт по физиология, Прага, Чешка република, с ръководител от българска страна доц. Я. Чекаларова

През 2012 г. са осъществени общо 3 командировки по линията на EBR с обща продължителност 35 дни, а резултатите от съвместните изследвания са публикувани в 5 международни списания (3 под печат).

През отчетната година в ИНБ са гостували общо 7 чуждестранни учени (от Германия, Румъния, Англия, Австралия) – 2 във връзка с изпълнение на научната програма по договори финансирани от НФНИ, 4 – по линия на EBR и 1по покана на изкледователско звено „Когнитивна невродинамика" – със собствени средства.

3.2. В рамките на договори и спогодби на институтско ниво

През 2012 г. беше одобрен и предстои финансиране на 1 проект по 7 Рамкова програма на ЕС – "Социална екосистема за забавяне на стареенето, подобряване на капацитета и качеството на живот" (Social ecosystem for anti-aging, capacitation and wellbeing) с координатор от българска страна – доц. Н. Бочева. Освен този проект, колеги участват без финансиране в 6 разработвани договори на институтско ниво с чуждестранни партньори (без тези по ЕБР) от Германия, Англия и Швейцария:

3.2.1 "Пластичност на мозъка и сън" с Партньор: Университет Любек, Германия и Ръководител от българска страна: проф. Ю. Йорданова

3.2.2. "Генетични, фамилни и индивидуално-личностови детерминанти на функционалното развитие в норма и психопатология" с Партньор: Университет Гьотинген, Германия и Ръководител от българска страна: доц. д-р Румен Киров

3.2.3. "Неврофизиологични корелати на когнитивната дейност при детски психиатрични разстройства", с Партньор: Университет Гьотинген, Германия и Ръководител от българска страна: проф. д-р Юлияна Йорданова

3.2.4. "Роля на съня за когнитивните и психични процеси в норма и психопатология" с Партньори: Университет Базел, Швейцария, Университет Гьотинген, Германия и Ръководител от българска страна: доц. д-р Румен Киров

3.2.5. "Невроелектрични корелати на дефицит на вниманието при неглект синдром" с Партньор: Университет Нотингам, Англия и Ръководител от българска страна: проф. В. Колев, проф. Ю. Йорданова

През 2012 г. в изпълнение на разработваната тематика са осъществени 3 дългосрочни (30 дневни) и 2 краткосрочни (9 дневни) командировки в чужбина за провеждане на съвместните изследвания и докладване на получени резултати.

Политиката на Института е да се поощряват всички възможни форми на контакти и сътрудничество с институти, университети, фирми и др., от една страна за популяризирне разработваната научно-изследователска тематика и от друга – за иницииране на съвместни проекти, които биха довели до финансиране на научната дейност в ИНБ.

4. УЧАСТИЕ НА ЗВЕНОТО В ПОДГОТОВКАТА НА СПЕЦИАЛИСТИ

Формите под които учени от ИНБ участват в подготовката на кадри са: научно ръководство на докторанти и дипломанти, лекции и упражнения във висши училища и лекции в чужбина. През 2012 г. общо 11 учени от ИНБ са участвали в обучението на

студенти и специализанти в три Университета в България: Софийски университет "Св. Кл. Охридски", Нов български университет и Медицински университет-София. Изнесени са 4 лекционни курса с общ хорариум от 196 часа и са проведени 779 часа упражнения, един курс за след-дипломна квалификация с продължителност от 64 часа и е обучаван един дипломант (Приложения 24, 25).

През отчетната година в ИНБ са обучавани общо 10 докторанти в три акредитирани научни специалности – 4 в специалност "Физиология (01.06.17), 4 по "Фармакология" (03.01.24)" и 2 по "Психофизиология (05.06.04)". В началото на 2012 са обучавани 8 докторанти, като през годината са зачислени 2 нови докторанти на самостоятелна подготовка. Под ръководството на учени от Института са обучавни 3 докторанти на самостоятелна подготовка от звена извън ИНБ. Успешно е защитил 1 докторант на самостоятелна подготовка в МУ Плевен, разработвал дисертационен труд по тематика на ИНБ - "Фармакологични аспекти на модуларни и низходящи моторни отговори в ректоанална област" с ръководител чл.кор Р. Радомиров- ИНБ.

Трябва да се отбележи, че в Института докторантурата на самостоятелна подготовка е най-силно застъпената (60% от всички доктурантури). Тя се явява перспективна форма на обучение на докторанти, тъй като дава възможност за по-дълъг период за експериментална работа и ефективен подбор на бъдещите учени.

Въпреки, че в страната делът на млади хора с интерес към научна кариера остава относително нисък, в последните години в ИНБ се наблюдава устойчива и положителна тенденция за подмладяване на състава на Института.

През 2012 г. 3$^{-ма}$ учени от ИНБ успешно издържаха конкурс за академичната длъжност "Професор" (1 по научна специалност "Фармакология (03.01.24)" и 2 – по "Психофизиология (05.06.04)"). Двама учени от Института спечелиха конкурси за академичната длъжност "Доцент" (1 по научна специалност "Фармакология (03.01.24)" и 1 - по "Физиология (01.06.17).

5. ИНОВАЦИОННА ДЕЙНОСТ НА ЗВЕНОТО И АНАЛИЗ НА НЕЙНАТА ЕФЕКТИВНОСТ

Научните изследвания в ИНБ имат както фундаментален, така и приложен характер. По-голямата част (>90%,) от разработваните проекти през 2012 година са приложни изследвания с иновативен характер и се намират основно във фаза изследователска (iR2). Въпреки иновативния характер на приложните изследвания в

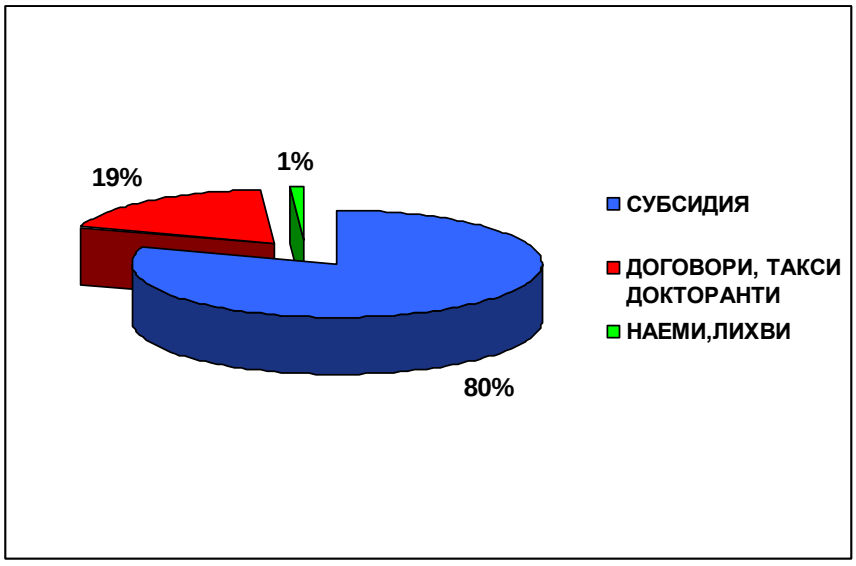
ИНБ, само малка част от тях прилючват с готови за стопанска реализация научни продукти. Препоръчително е относителният дял на такива проекти да нараства във времето чрез придвижването им от фазите на изследователска и развойна дейност към фазата на защита на интелектуалната собственост.

6.-7. КРАТЪК АНАЛИЗ НА ФИНАНСОВОТО СЪСТОЯНИЕ

I. ПРИХОДИ

През отчетния период 01.01.2012 г. – 31.12.2012 г. ИНБ е реализирал и отчел приходи, както следва (Фиг. 1):

- От сключени договори с Фонд „Научни изследвания" е получено финансиране по три проекта на обща стойност 145 652 лв. и предоставено финансиране от МУ-София по един проект на стойност 22 500 лв.
- По три договора с Медицински университет - Варна са получени 40 754 лв.
- От такса докторанти - 880 лв.
- От лихви по банкови сметки и лихви за просрочия – 135 лв.
- От договори за наем са преведени 7 406 лв.



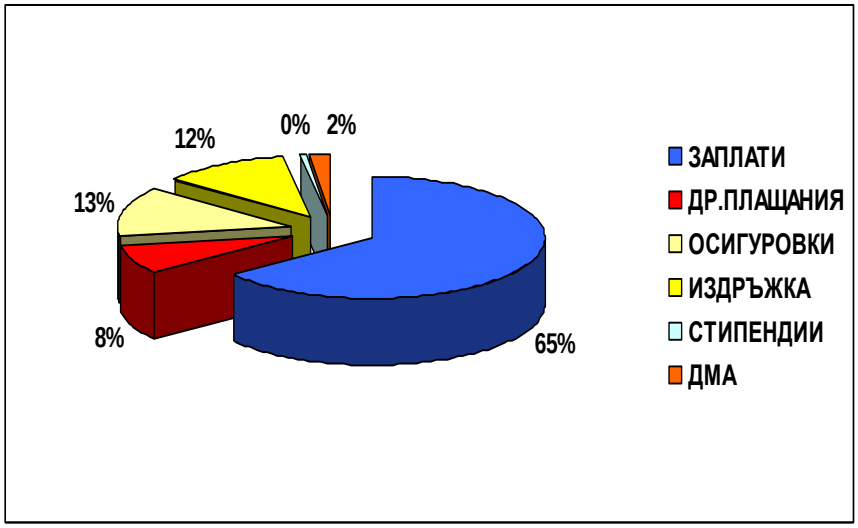
Фиг. 1. Приходи в Институт по невробиология за 2012 г.

II. РАЗХОДИ

Разходите за отчетния период са в размер на 859 348 лв. (Фиг. 2.)

- Начислени и изплатени са заплати на служителите в трудово правоотношение и в щатния състав на Института по невробиология в размер на 580 326 лв., от които платени със собствени средства на ИНБ са 6571 лв.

- Начислени са осигурителни вноски за сметка на работодател за Фондовете на ДОО, на Здравно осигуряване и Допълнително задължително пенсионно осигуряване общо в размер на 112 246 лв.
- Изплатени са обезщетения, както следва:
  - по чл. 222, ал. 3 от Кодекса на труда на трима служители в размер на 18 614 лв.
  - по чл. 224 на един служител в размер на 1 127 лв.
  - по чл. 40 от Кодекса за социално осигуряване – 25 обезщетения за временна нетрудоспособност за сметка на работодателя в размер на 1 056 лв.
- Изплатени са 68 хонорари по граждански договори в размер на 34 091 лв. общо за годината.
- Изплатени са 61 допълнителни възнаграждения със средства от договори за научни изследвания в размер на 20 592 лв.
- Възстановени са на ИБЕИ-БАН и ИЕМПАМ-БАН разходи, свързани с ползваните от ИНБ-БАН помещения в бл. 23 и бл. 25 в размер на 49 067 лв.
- За командировки в страната и чужбина са изразходвани 7 439 лв.
- Разходите за стипендии са в размер на 4 671 лв. Изплащана е стипендия на един докторант редовно обучение Миглена Ходжева за 11 месеца през 2012 г.
- Извършени са разходи за закупуване на дълготрайни материални активи и програмни продукти в размер на 14 882 лв.



Фиг. 2. Разходи на Институт по невробиология за 2012 г.

8. СЪСТОЯНИЕ И ПРОБЛЕМИ НА ЗВЕНОТО В ИЗДАТЕЛСКАТА И ИНФОРМАЦИОННАТА ДЕЙНОСТ

През 2012 г. беше възобновена работата с читатели в Академичния информационен център към ИНБ, която през 2011 г. беше силно редуцирана по

финансови причини. Понастоящем в Академичния информационен център към ИНБ се съхраняват общо 23743 тома, от които около 70 % са периодични издания. Значително е количеството литература на английски, руски и немски език. През 2012 поради силно редуцирания бюджет, абонамент на чуждестранни издания на английски език не беше осъществен. Получавани бяха единични броеве чеждестранна периодика издадена преди 2012 г и само 1 пълно издание на чуждестранно списание (Japanese Journal of Pharmacological science – 6 книжки). Редовно се получават българските издания - Докладите на БАН и Списание на БАН.През 2012 г. в в Академичния информационен център са получени книги от лични дарения (27 бр. от личната библиотека на проф. Павлов и 3 бр. от доц. Райна Георгиева).

Локалната Интернет - мрежа в ИНБ се поддържа в добро състояние, което дава възможност да се ползват чрез Академичния информационен център ресурсите на безплатен достъп до on-line системи и издания, осигурени от Централната библиотека на БАН, както и да се разпространява информация за предстоящи събития, тематични конкурсни програми и текущи съобщения свързани с дейността на ИНБ.

9. ИНФОРМАЦИЯ ЗА НАУЧЕН СЪВЕТ НА ИНБ

Научният съвет е избран на 18 октомври 2011 г. След тази дата са направени следните промени:

Във връзка с избора на проф. д-р Рени Калфин за директор на ИНБ, чл. кор. проф. д-р Радомир Радомиров, дмн, който беше включен в НС по право като директор на ИНБ, беше избран от Общото събрание на учените от ИНБ на 08.05.2012г. за външен член на НС (Протокол №5/08.05.2012).

На 26.06.2012г. на Общото събрание на учените от ИНБ беше избрана за нов член на НС доц. д-р Катерина Стамболиева, от ИНБ (Протокол № 7/26.06.2012).

В момента действащият Научен съвет е в състав:

1. Проф. д-р Рени Калфин, ИНБ - БАН
2. Проф. д-р Ирен Белчева дмн, ИНБ - БАН
3. Проф. д-р Веселин Петков дмн, ИНБ - БАН
4. Проф. д-р Юлияна Йорданова, ИНБ - БАН
5. Проф. д-р Васил Колев, ИНБ - БАН
6. Доц. д-р Надежда Бочева, ИНБ - БАН
7. Доц. д-р Пламен Гатев, ИНБ - БАН

8. Доц. д-р Валентина Григорова, ИНБ - БАН -Председател на НС
9. Доц. д-р Димитър Митов, ИНБ - БАН
10. Доц. д-р Катерина Стамболиева, ИНБ - БАН
11. Доц. д-р Росица Замфирова, ИНБ - БАН - Зам. Председател на НС
12. Доц. д-р Роман Ташев, ИНБ - БАН
13. Доц. д-р Яна Чекаларова, ИНБ - БАН - Секретар на НС
14. Млад учен със съвещателен глас гл. ас. д-р Калина Рачева - ИНБ - БАН

ВЪНШНИ ЧЛЕНОВЕ

1. Акад. Петя Василева, дмн, Специализирана очна болница „Академик Пашев”
2. Чл. кор. проф. д-р Радомир Радомиров, дмн, МА, Плевен
3. Чл. кор. проф. д-р Андон Косев, дбн, ИБФБМИ - БАН
4. Проф. д-р Стефан Костянев, дмн, МА, Пловдив
5. Проф. д-р Божидар Димитров, дмн, ИИНЧ - БАН
6. Проф. д-р Негрин Негрев, дмн, МА, Варна

10. ДОПЪЛНИТЕЛНИ СПИСЪЦИ:

СПИСЪК НА ПУБЛИКАЦИИТЕ НА УЧЕНИТЕ ОТ ИНСТИТУТ ПО НЕВРОБИОЛОГИЯ през 2012 г.

Списък на публикациите, които са реферирани и индексирани в световната система за реферране, индексиране и оценяване

[1]. Yordanova, J., Kolev, V., Wagner, U., Born, J., Verleger, R. Increased slow-spindle activity during slow-wave sleep as a marker for the transition from implicit knowledge to explicit insight. **Journal of Cognitive Neuroscience**, 2012, 24 (1), 119-132. ISSN 0898-929X http://dx.doi.org/10.1162/jocn_a_00097

[2]. Kirov, R., Brand, S., Kolev, V., Yordanova, J. The sleeping brain and the neural basis of emotions. Commentary on Lindquist, K.A., Wager, T.D., Kober, H., Bliss-Moreau, E. & Barrett, L.F. The brain basis of emotion: A meta-analytic review. **Behavioral and Brain Sciences**, 2012, 35, 155-156. ISSN 0140-525X http://dx.doi.org/10.1017/S0140525X11000446

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Списък на публикациите, които са включени в издания с импакт фактор, IF (WEB of Science) или импакт ранг SJR (Scopus)

[1] Yordanova, J., Kolev, V., Wagner, U., Born, J., Verleger, R. Increased slow-spindle activity during slow-wave sleep as a marker for the transition from implicit knowledge to explicit insight. **Journal of Cognitive Neuroscience**, 2012, 24 (1), 119-132. ISSN 0898-929X http://dx.doi.org/10.1162/jocn_a_00097, **IF=6.268**

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СПИСЪК НА ЦИТИРАНИЯТА НА НАУЧНИТЕ ТРУДОВЕ НА УЧЕНИТЕ ОТ Института по невробиология при БАН през 2012 г.

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